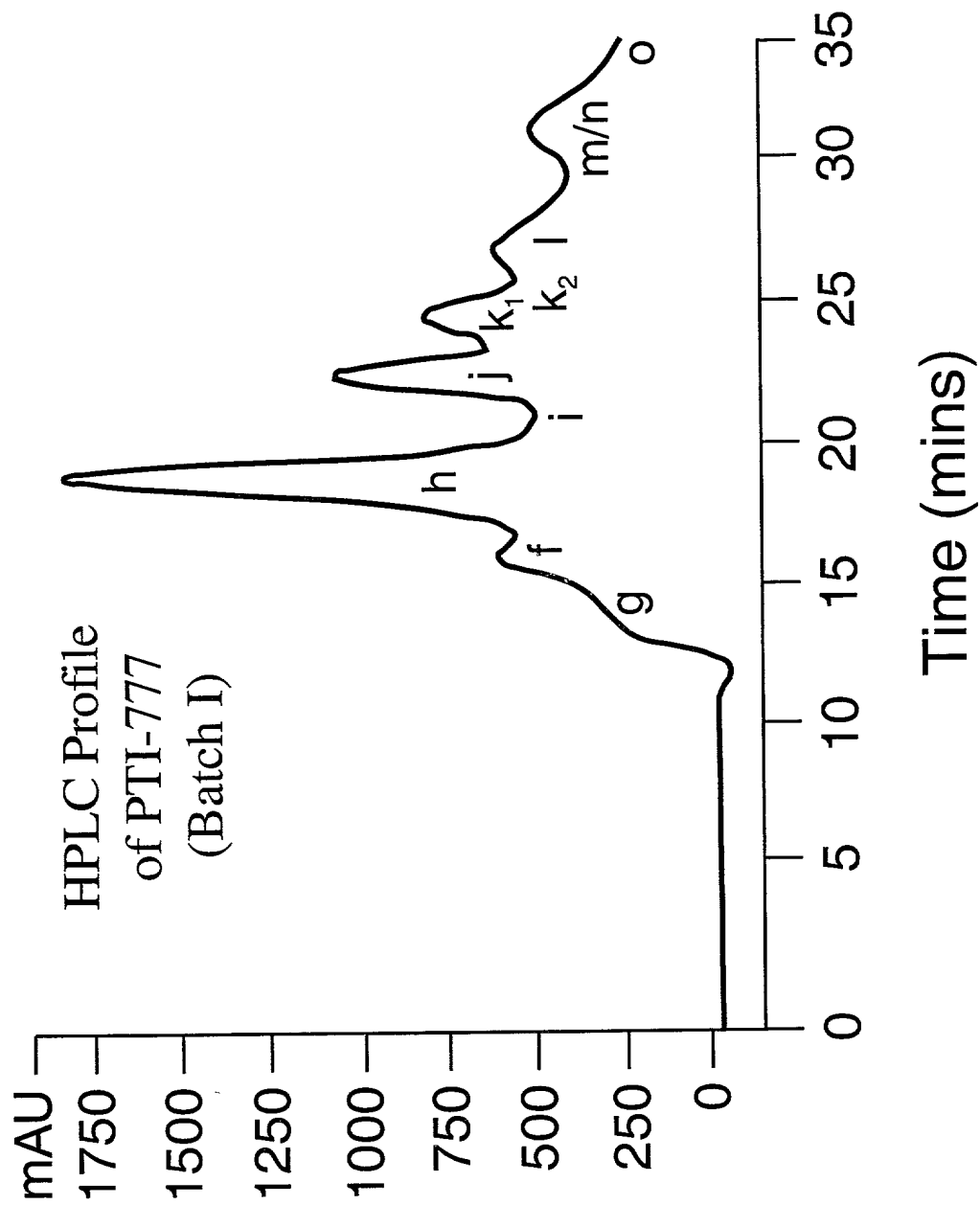
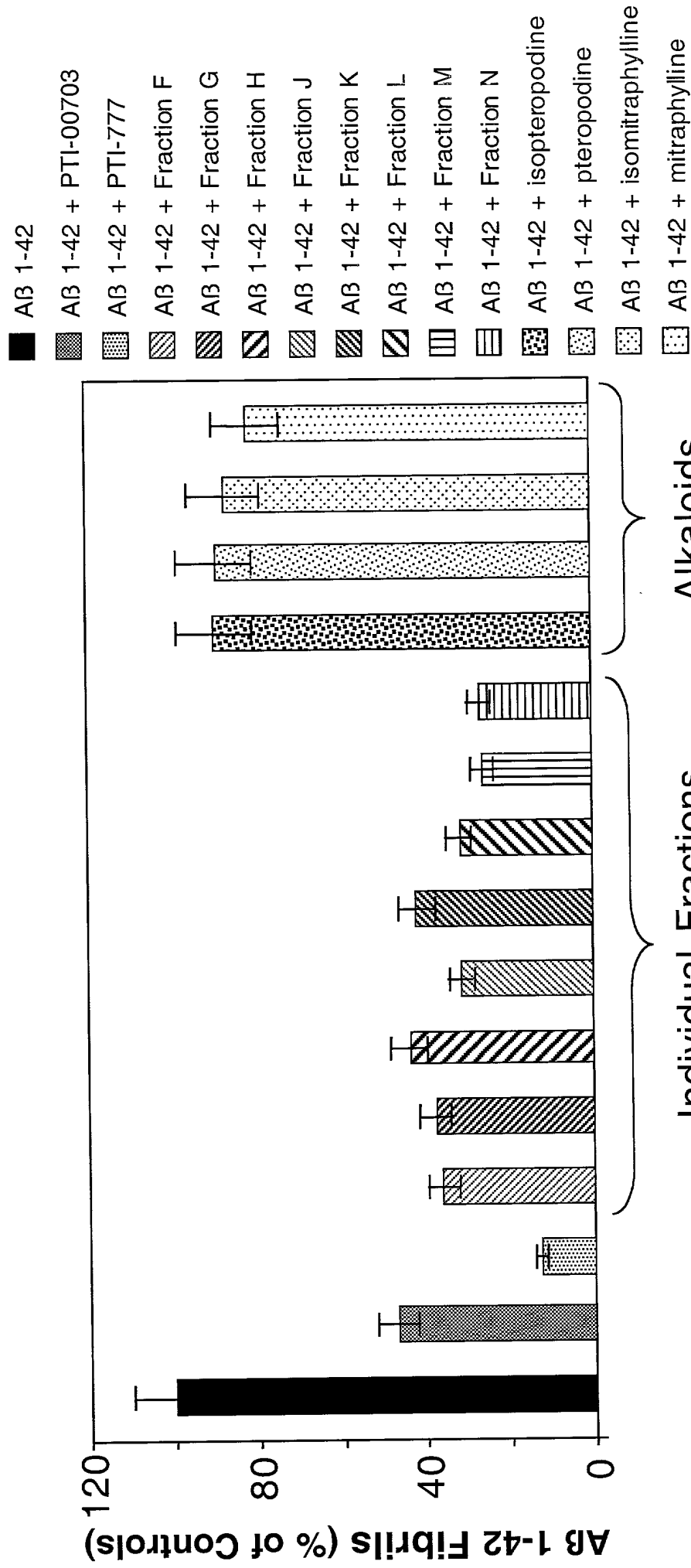


FIGURE 2





## Treatment Groups

FIGURE 4

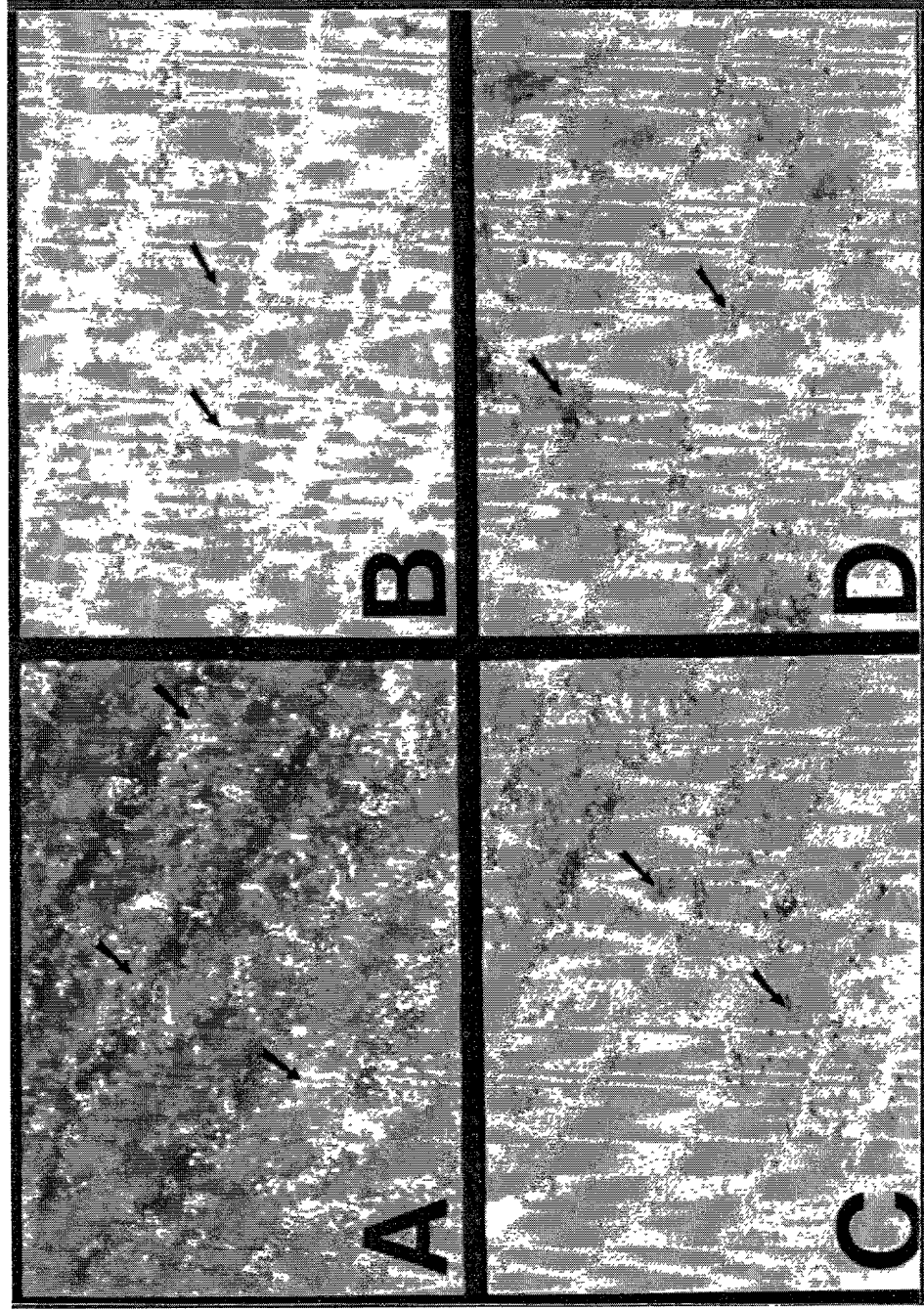
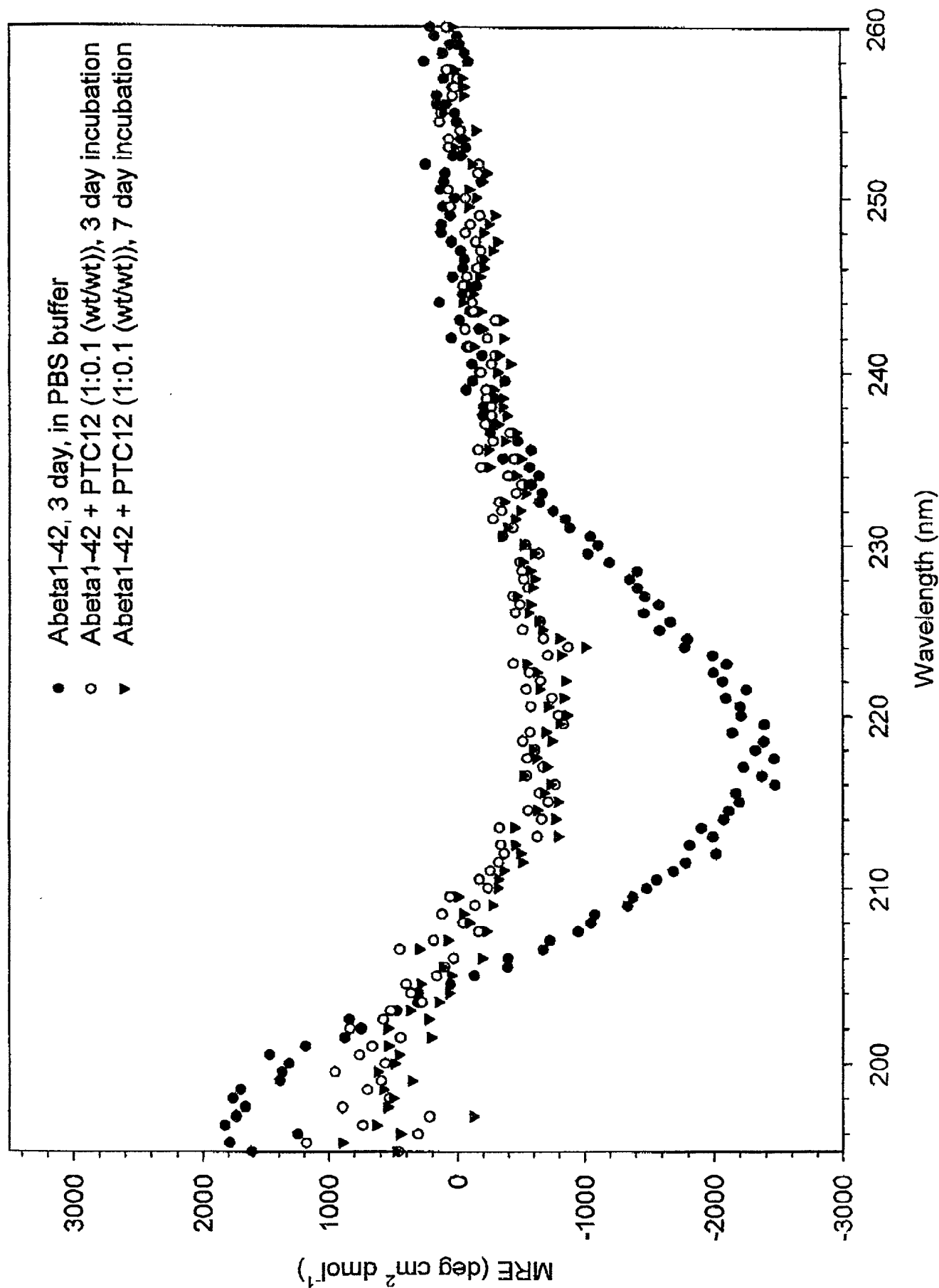


FIGURE 5



10053655 110201

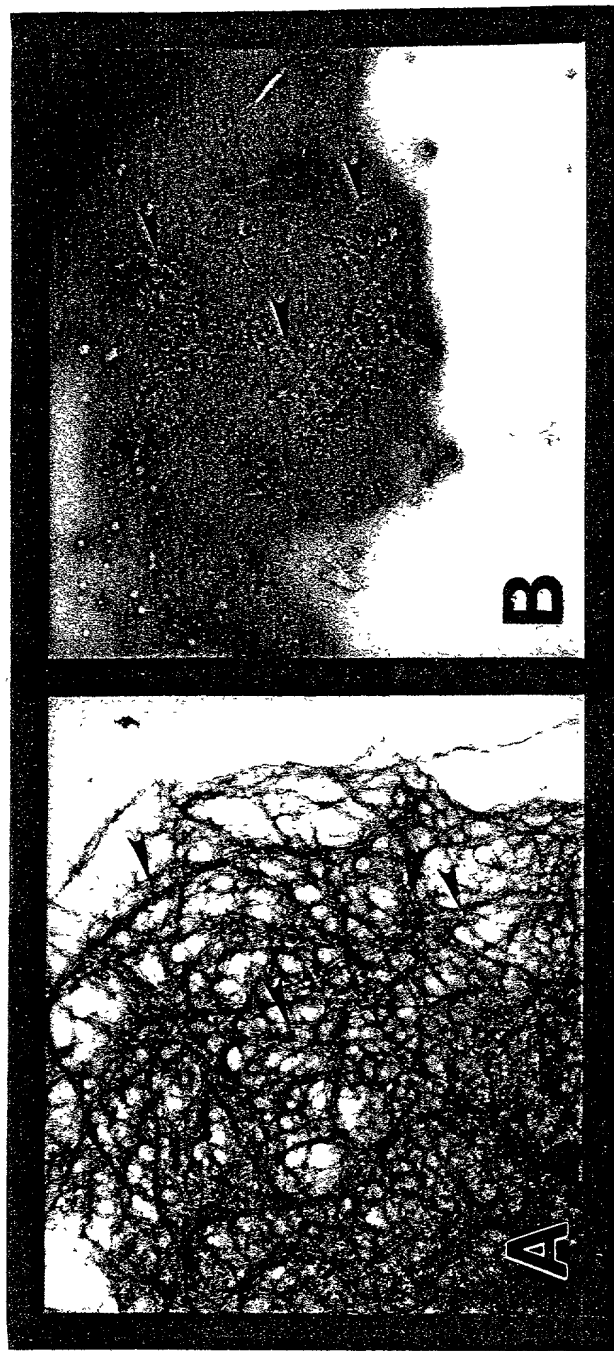


FIGURE 7

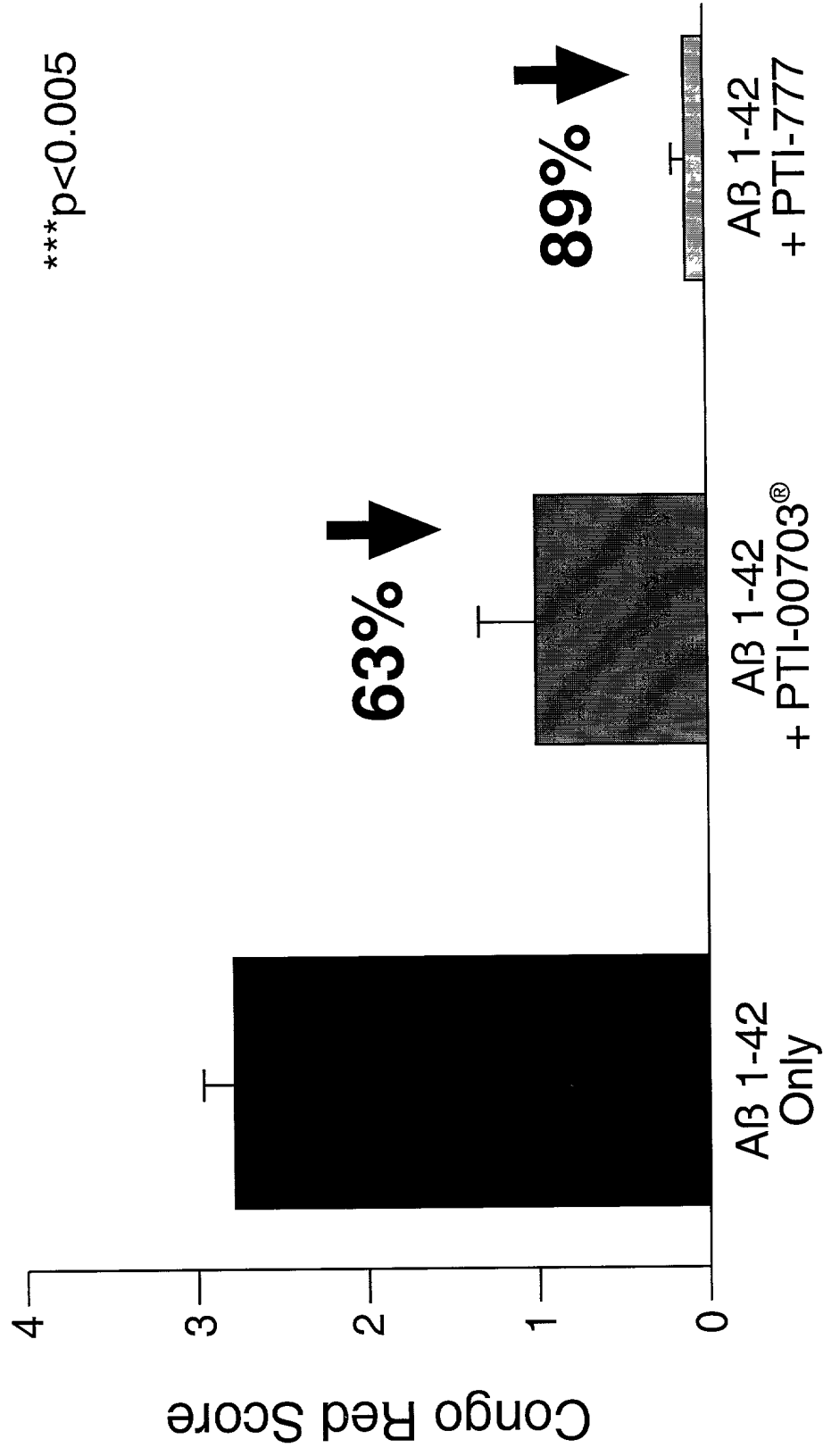
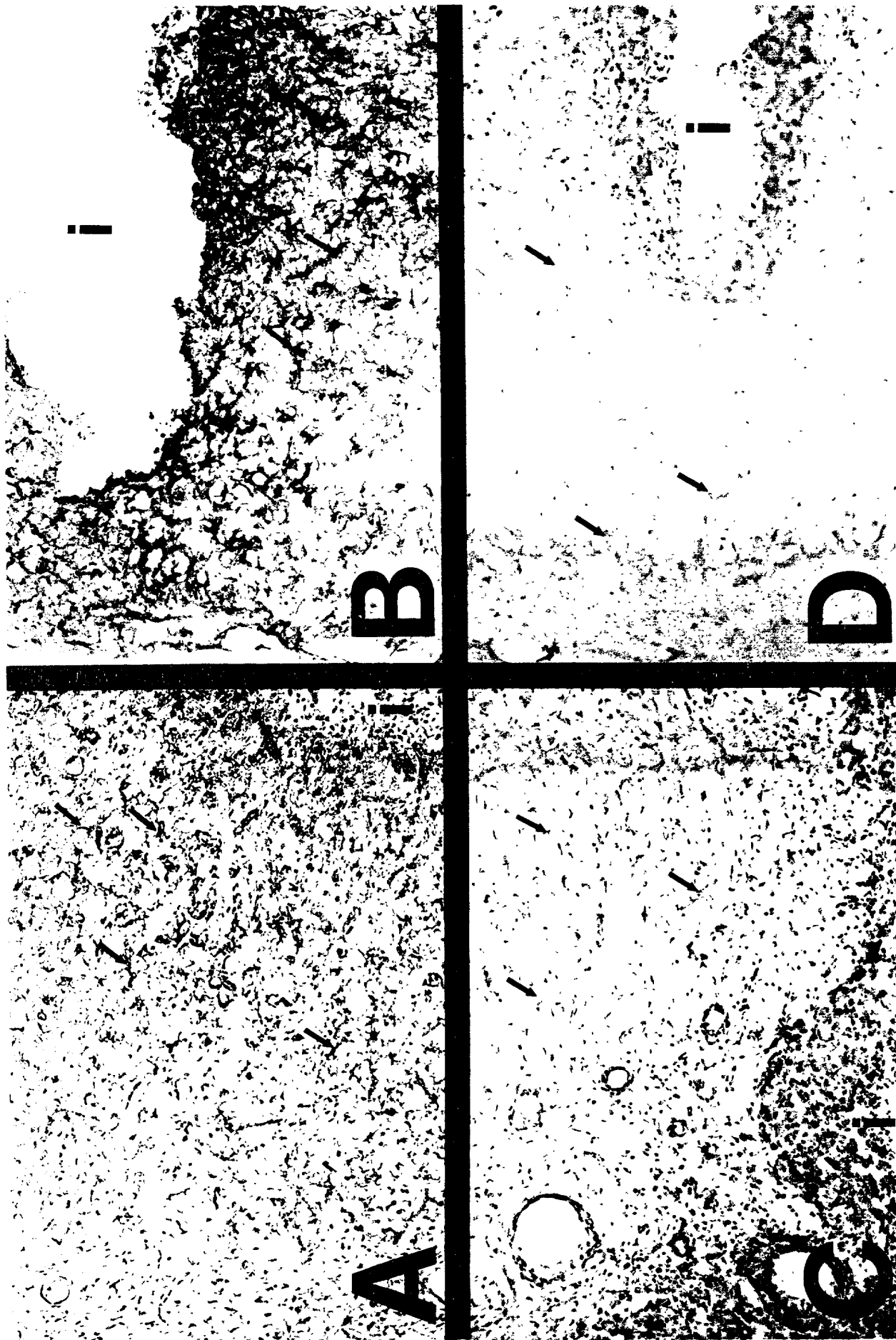


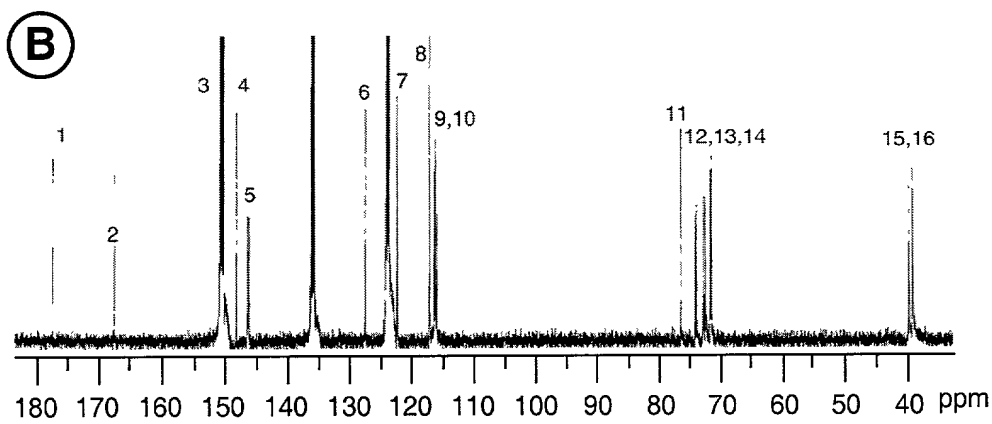
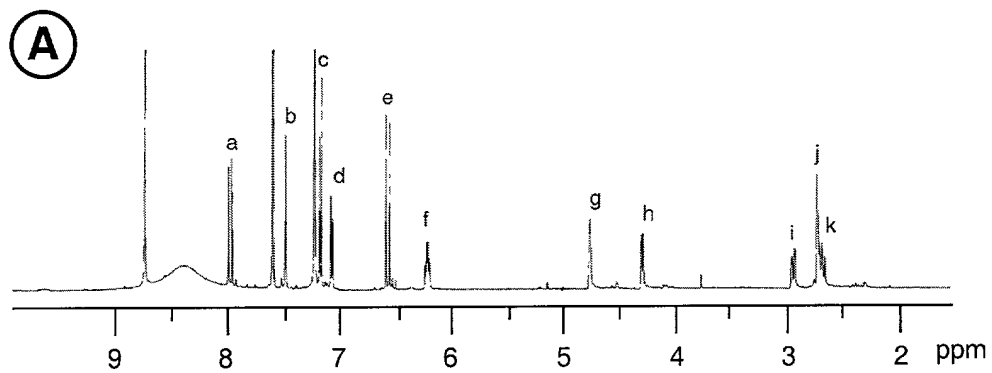
FIGURE 8

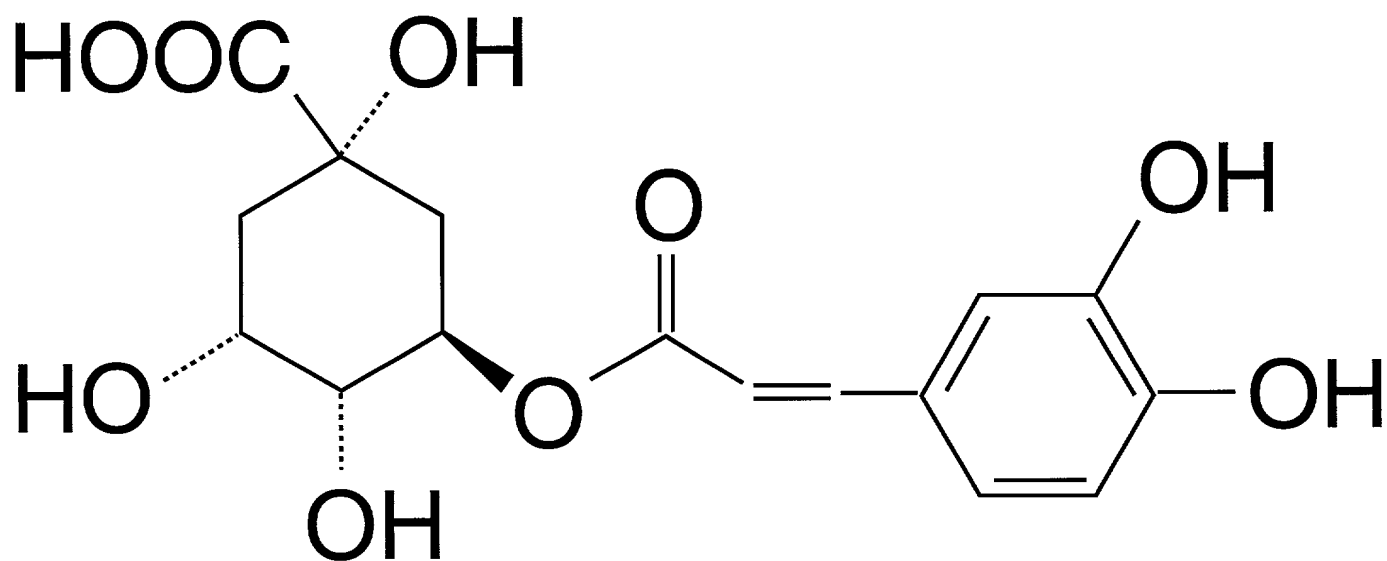


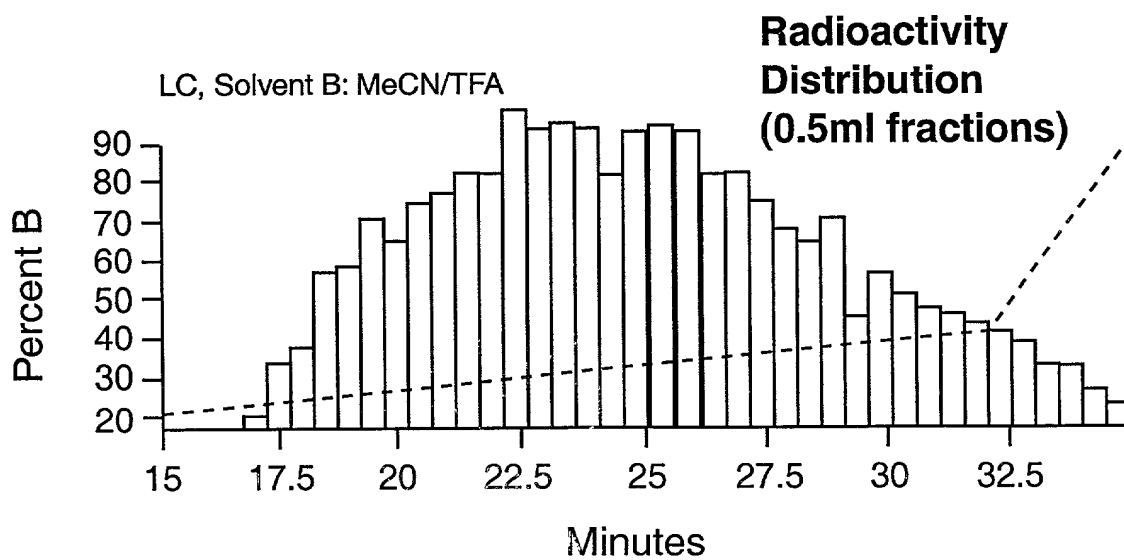
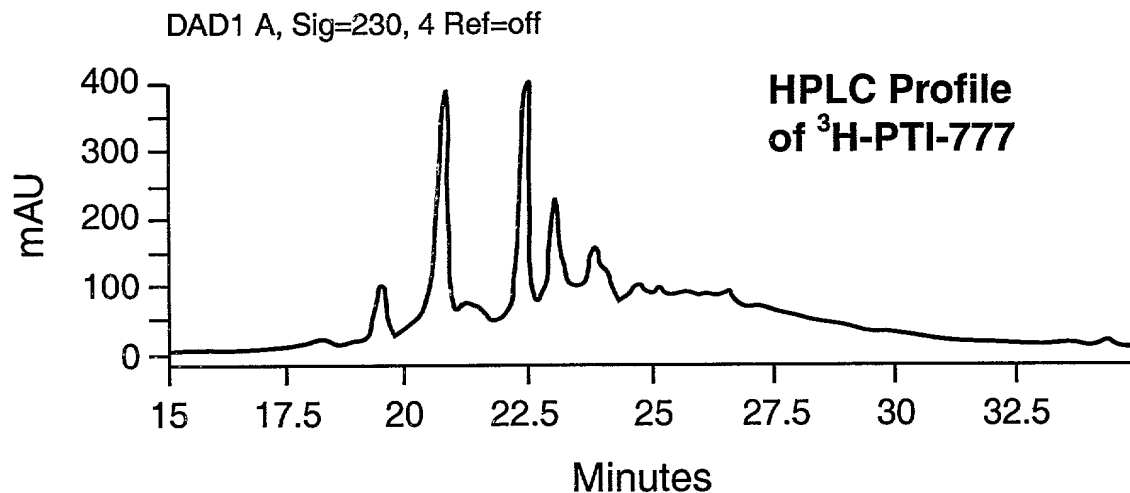
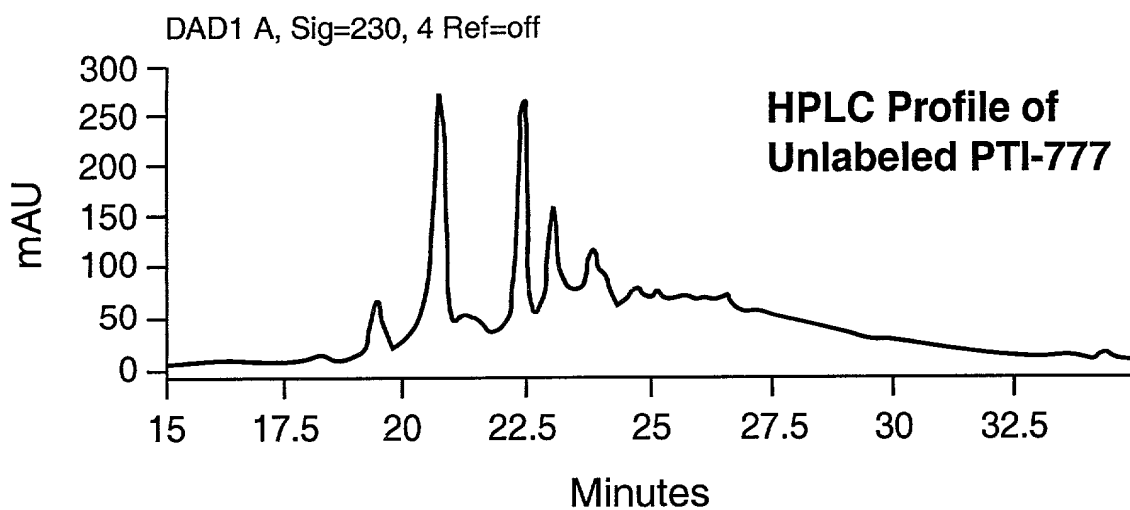


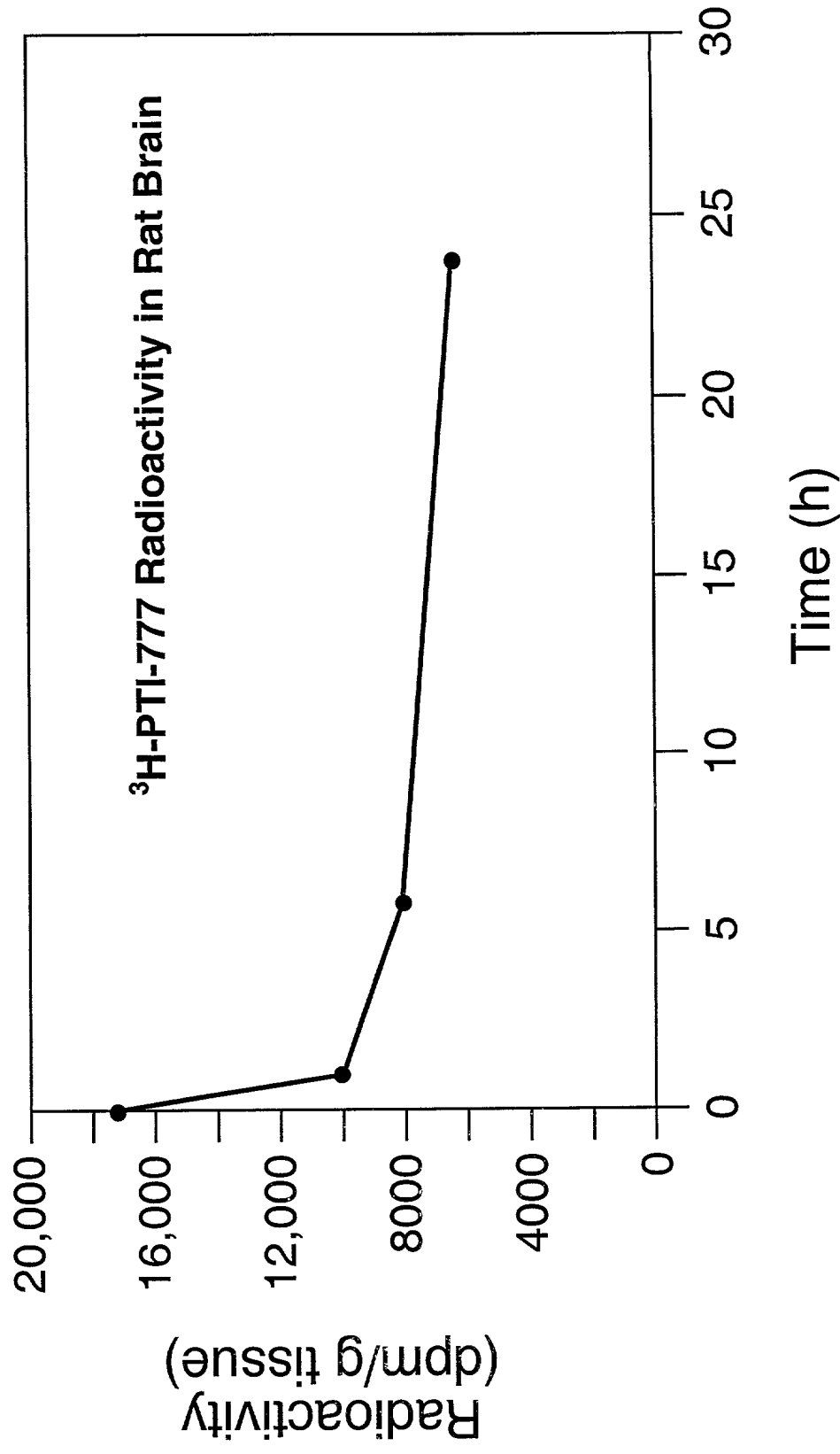
— FIGURE 1 —











# Jaguar Summed Mass Spectrum Report

File Name: G:\\_41.dat  
Method Name:  
Sample ID:  
Instrument: JAGUAR

Time Run: 11/13/00 11:01:40 AM  
Report Created: 11/13/00 11:03:26 AM  
Operator:  
Ionization Mode: ESI - positive ions

Spec # Range: 2706 - 2778

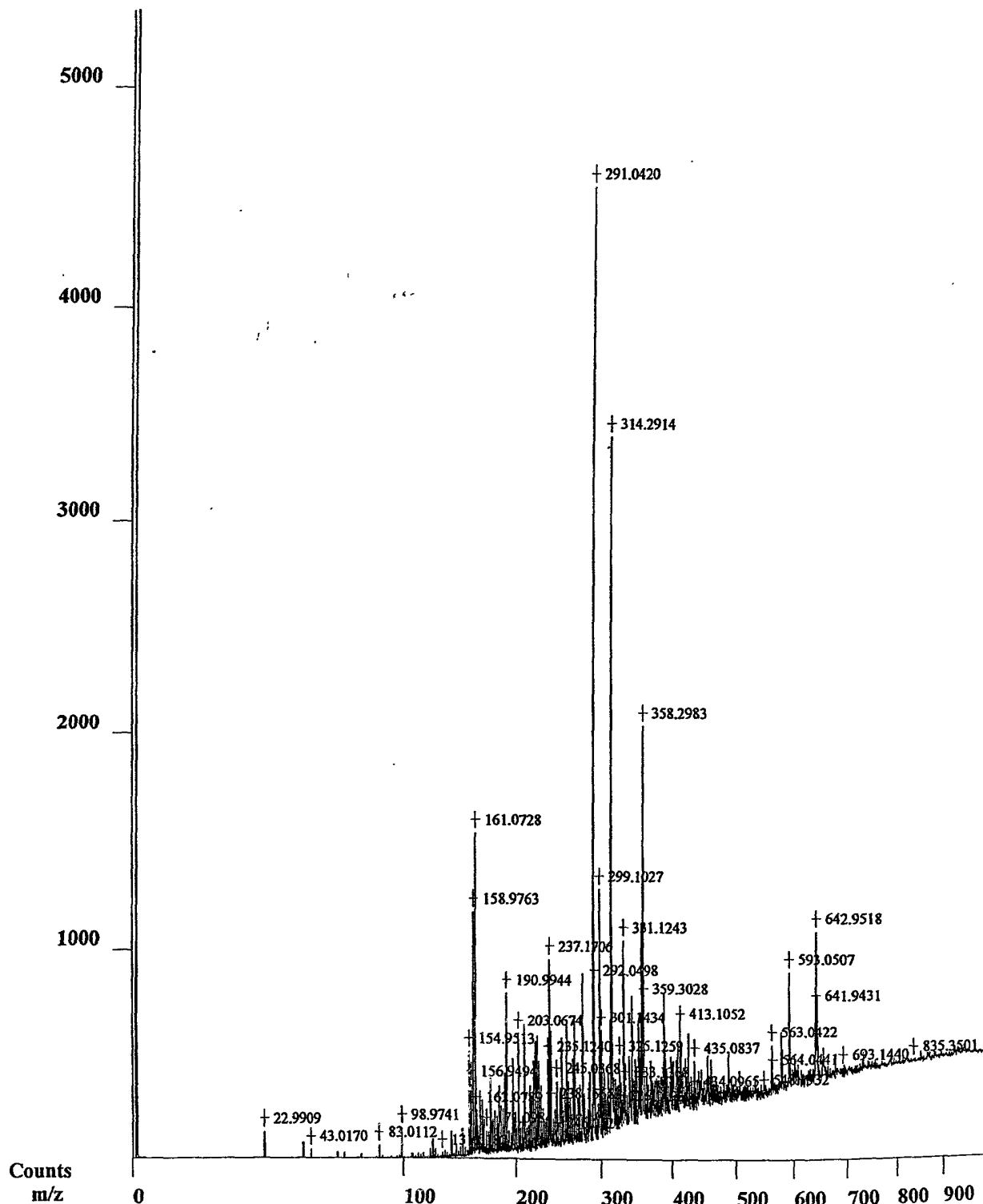


FIGURE 14

PORT "GREEN"

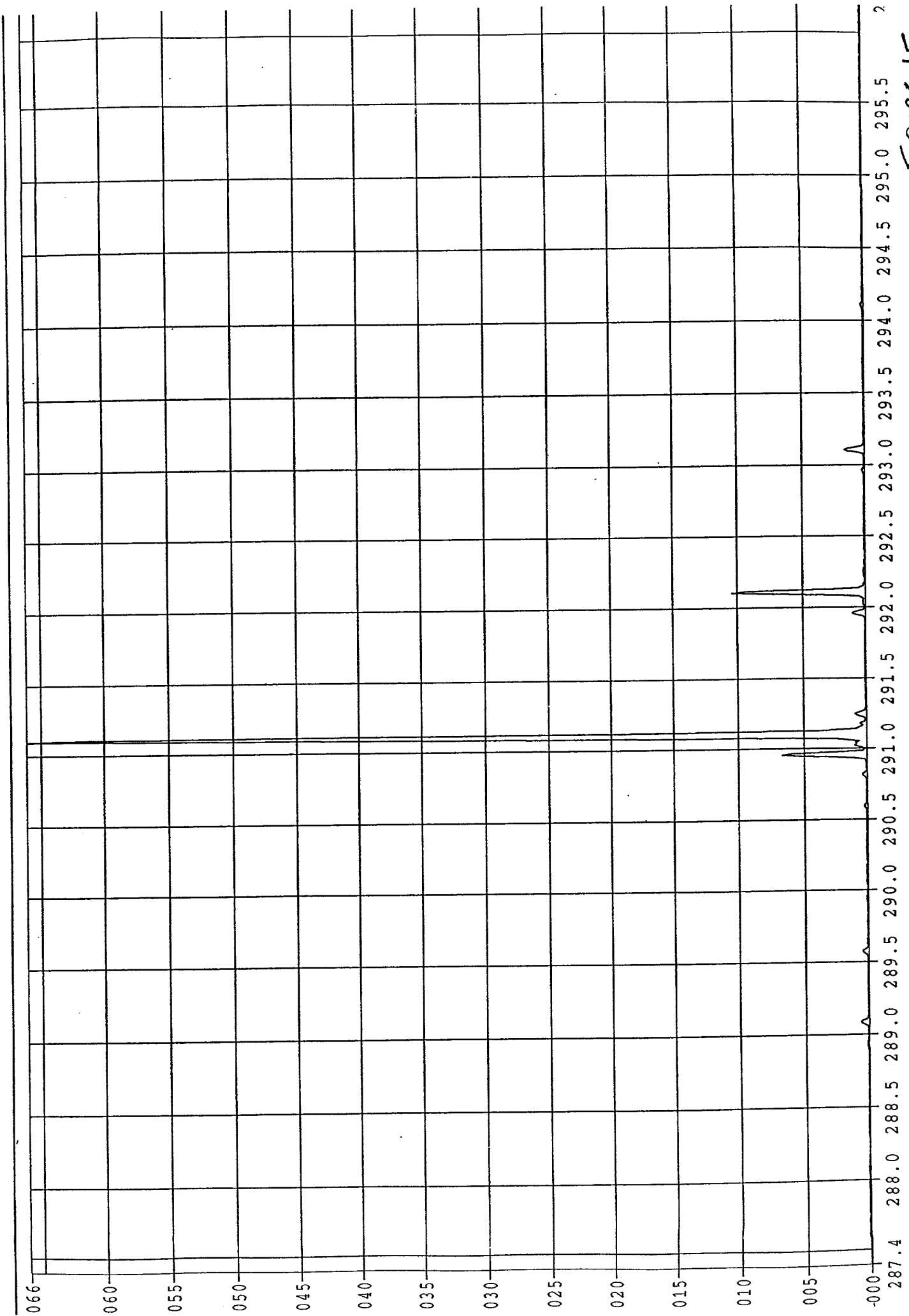


FIGURE 15-

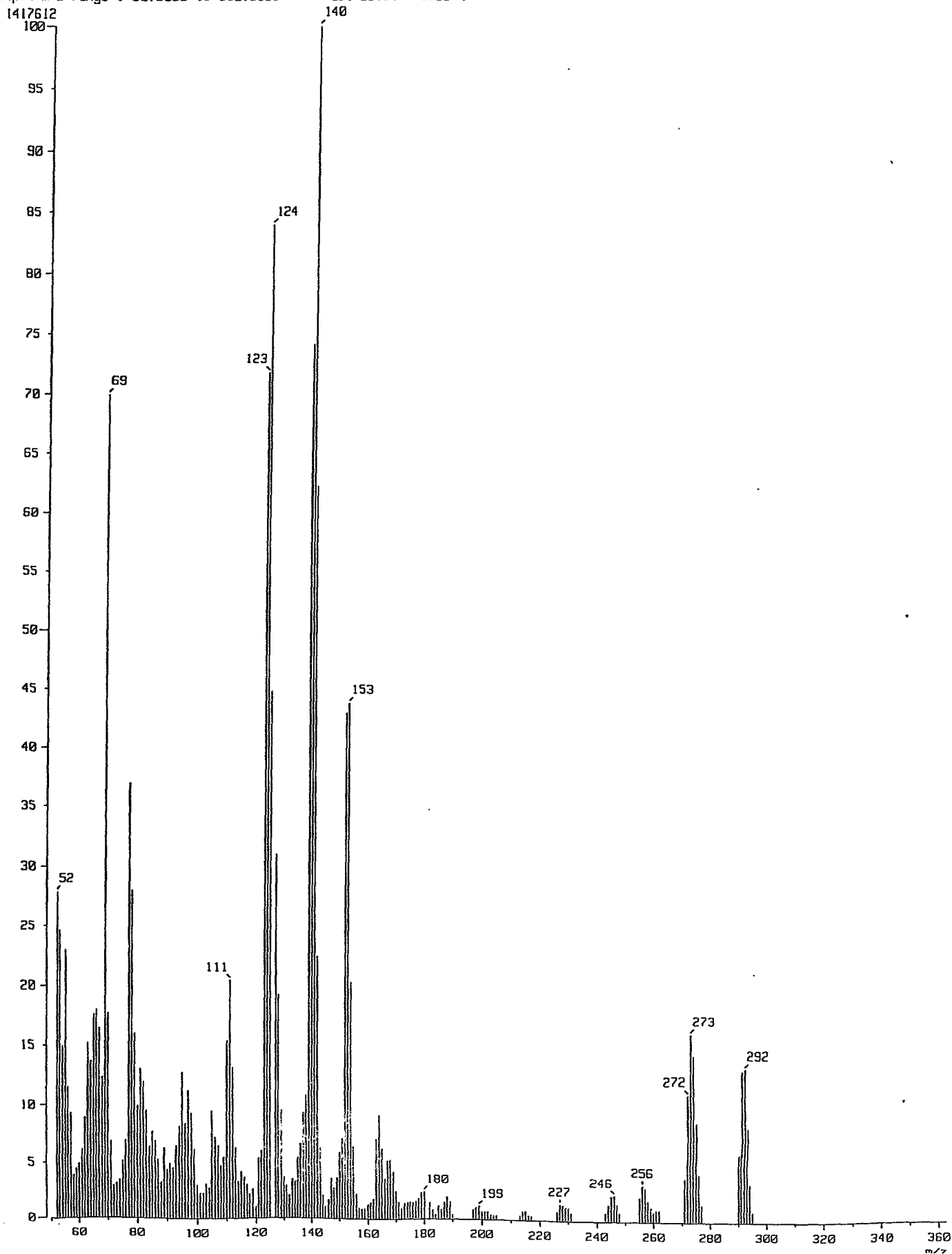
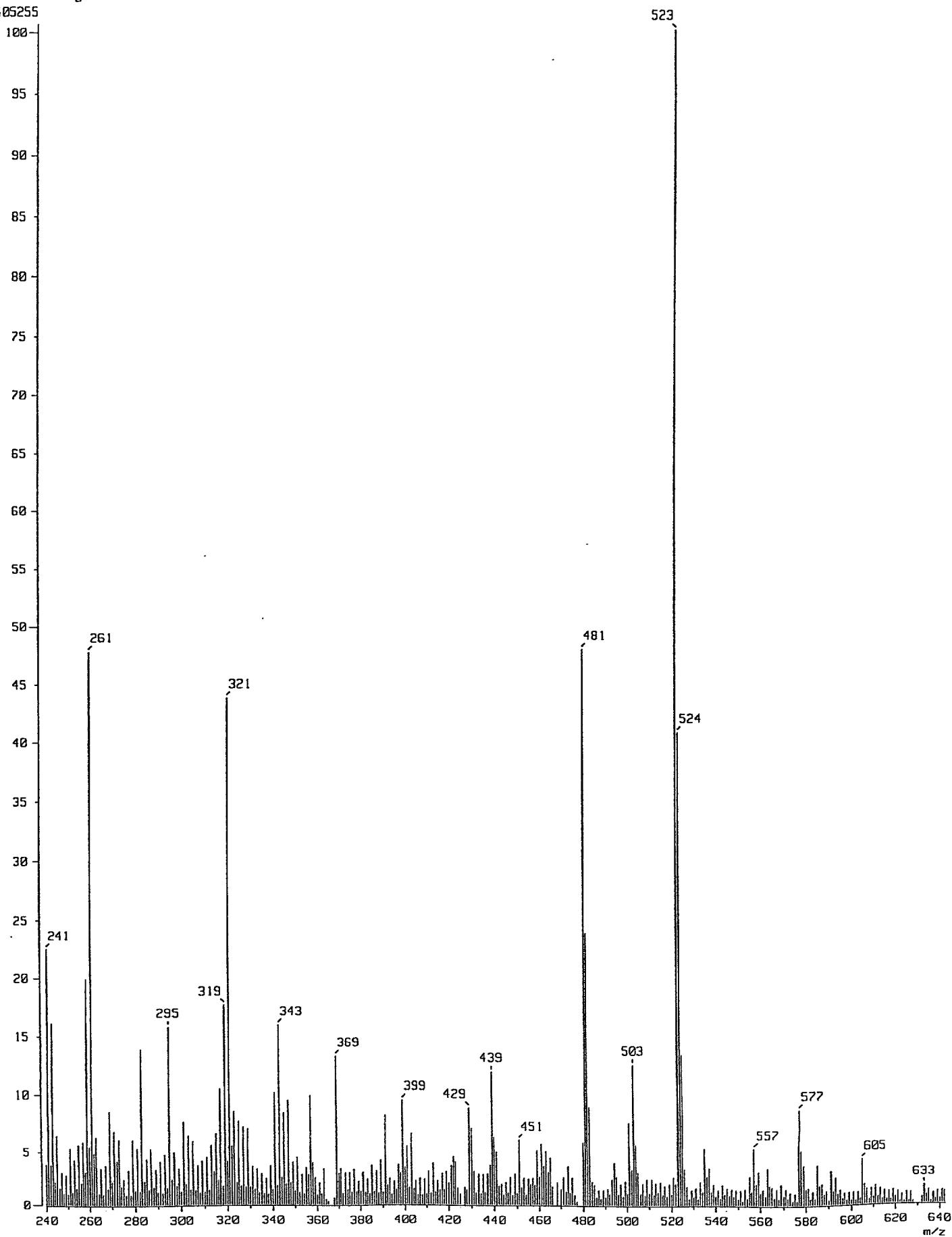


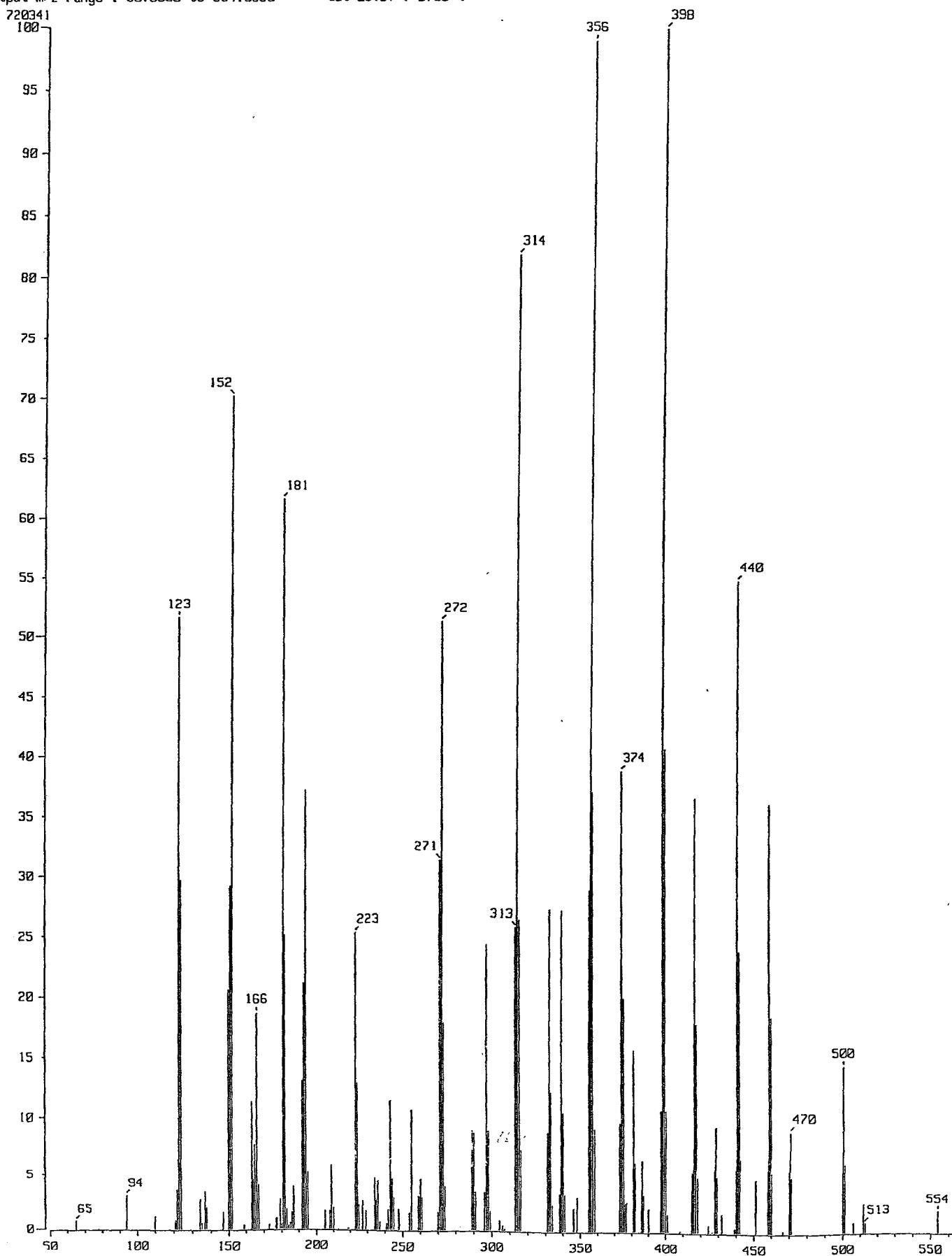


FIGURE 17



[ Mass Spectrum ]  
Data : BYU A373  
Sample: acylated-1  
Note :  
Inlet : Direct Ion Mode : EI+  
Spectrum Type : Normal Ion [MF-Linear]  
RT : 0.89 min Scan# : (7,9)-k((3,4))[k=1.0]  
BP : m/z 398.0000 Int. : 68.70  
Output m/z range : 50.0000 to 564.0950 Cut Level : 0.00 %

FIGURE 12



FOOT" 639500T

H1 of sample

Pulse Sequence: s2pul

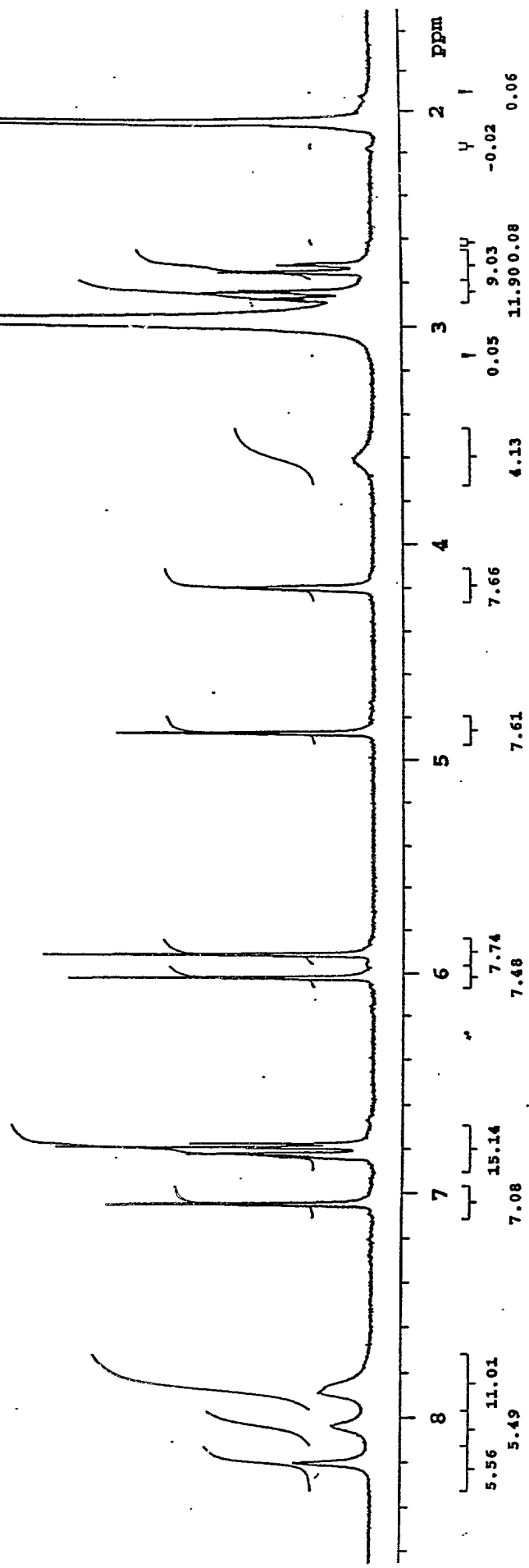


FIGURE 19

C13 of Sample in Acetone-d6

Pulse Sequence: zgpg30

100.00000000000000

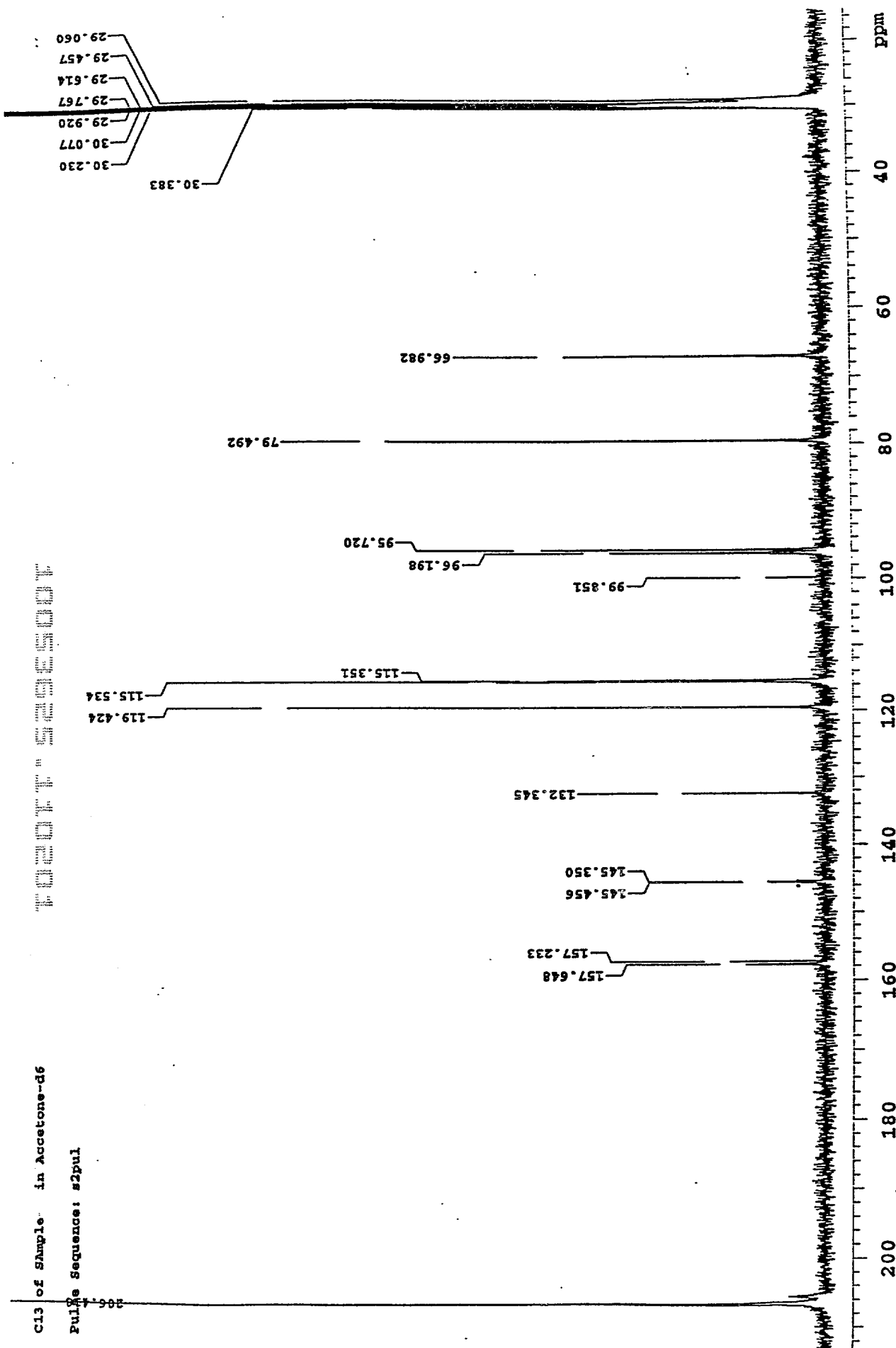
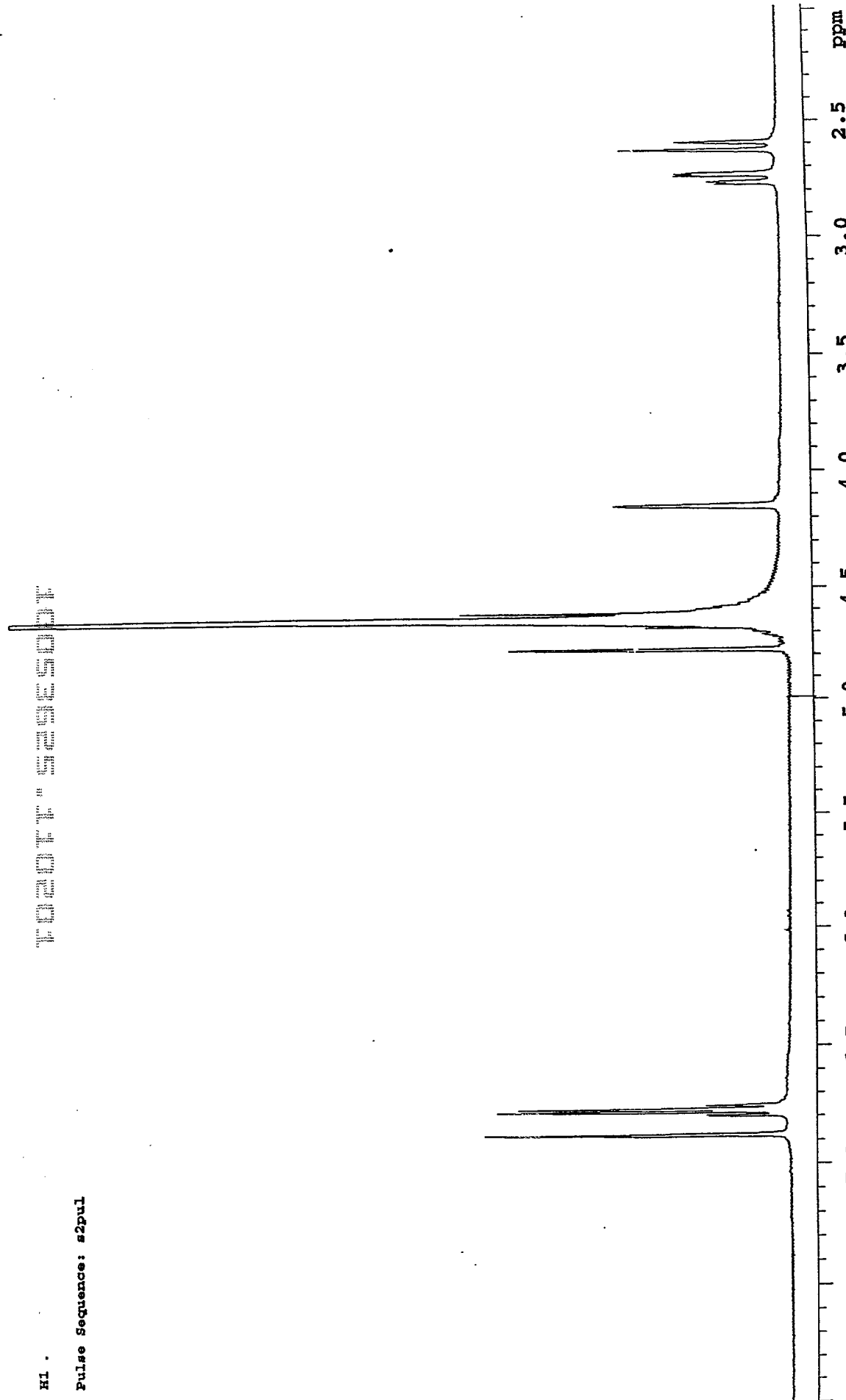


FIGURE 20

H1 .

Pulse Sequence: s2pul

1000T " gage50T



— FIGURE 21

TOP OF 53500T

C13 of sample in D2O.

Pulse Sequence: s2pul

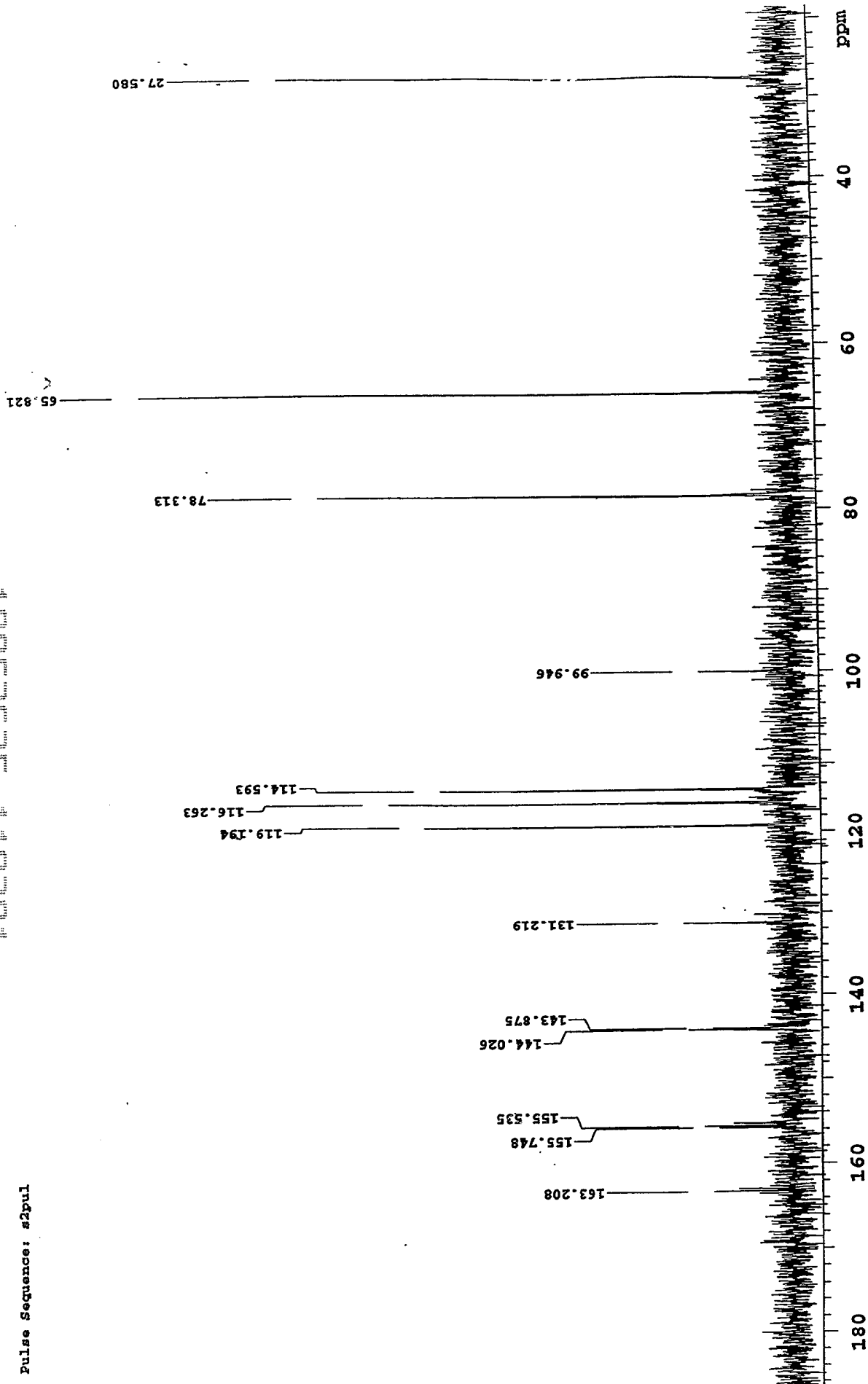


FIGURE 22

# COSY of Sample

Pulse Sequence: relayh

Solvent: Acetone

Ambient temperature

UNITY-500 "nmr500"

PULSE SEQUENCE: relayh

COSY 90-90

Acq. time 0.302 sec

Width 3817.5 Hz

2D Width 3817.5 Hz

16 repetitions

159 increments

OBSERVE F1, 499.881428 MHz

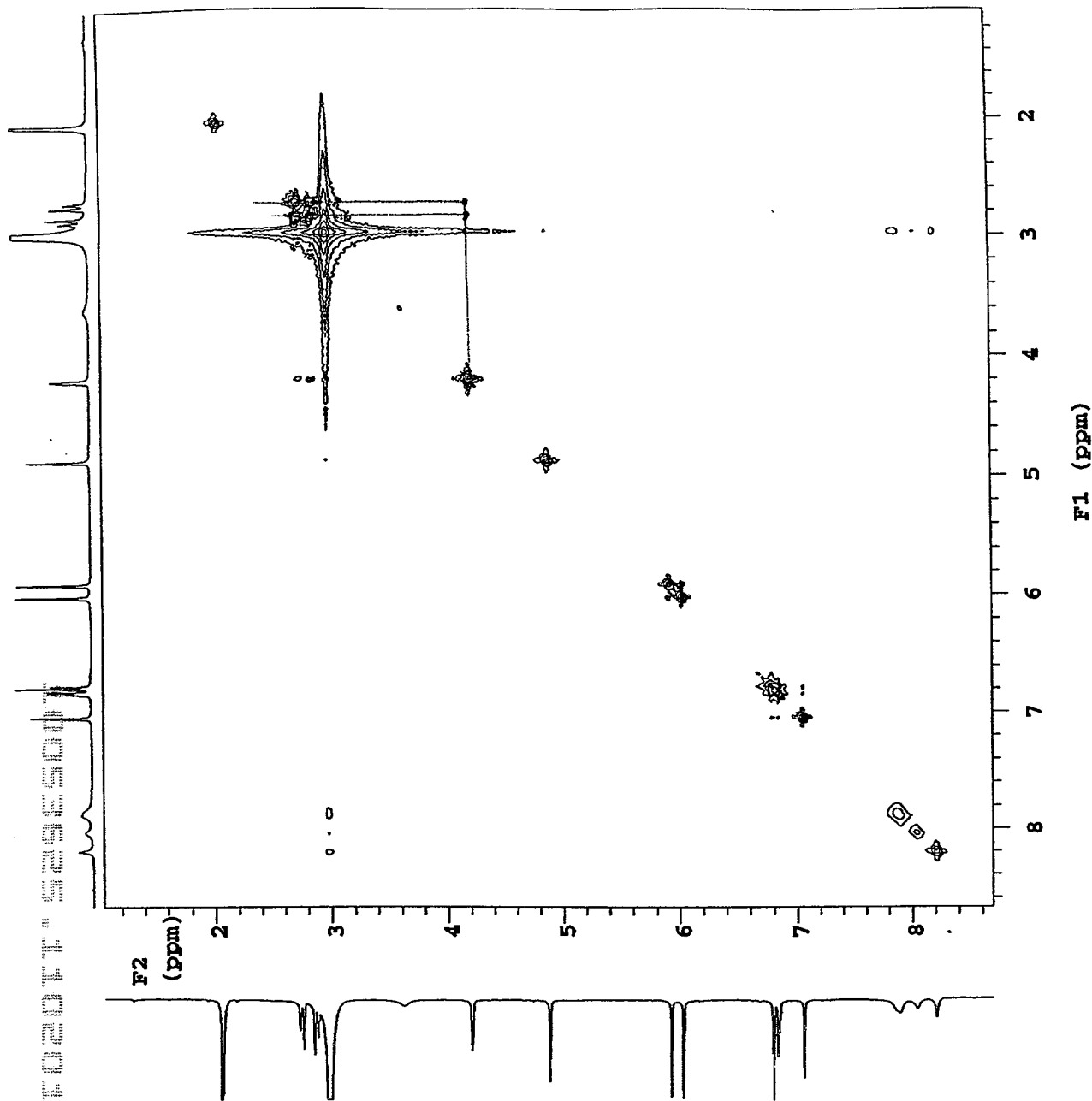
DATA PROCESSING

F1 DATA PROCESSING

Line broadening 0.3 Hz

FT size 1024 x 1024

Total time 14 min, 12 sec



COSY

Pulse Sequence: relayh

Solvent: D2O

Ambient temperature

UNITY-500 "nmr500"

PULSE SEQUENCE: relayh

Relax. delay 0.500 sec

COSY 90-90

Acq. time 0.178 sec

Width 2882.3 Hz

2D Width 2882.3 Hz

8 repetitions

120 increments

OBSERVE H1, 499.8801324 MHz

DATA PROCESSING

Line broadening 0.1 Hz

F1 DATA PROCESSING

Line broadening 0.3 Hz

FT size 1024 x 1024

Total time 11 min, 23 sec

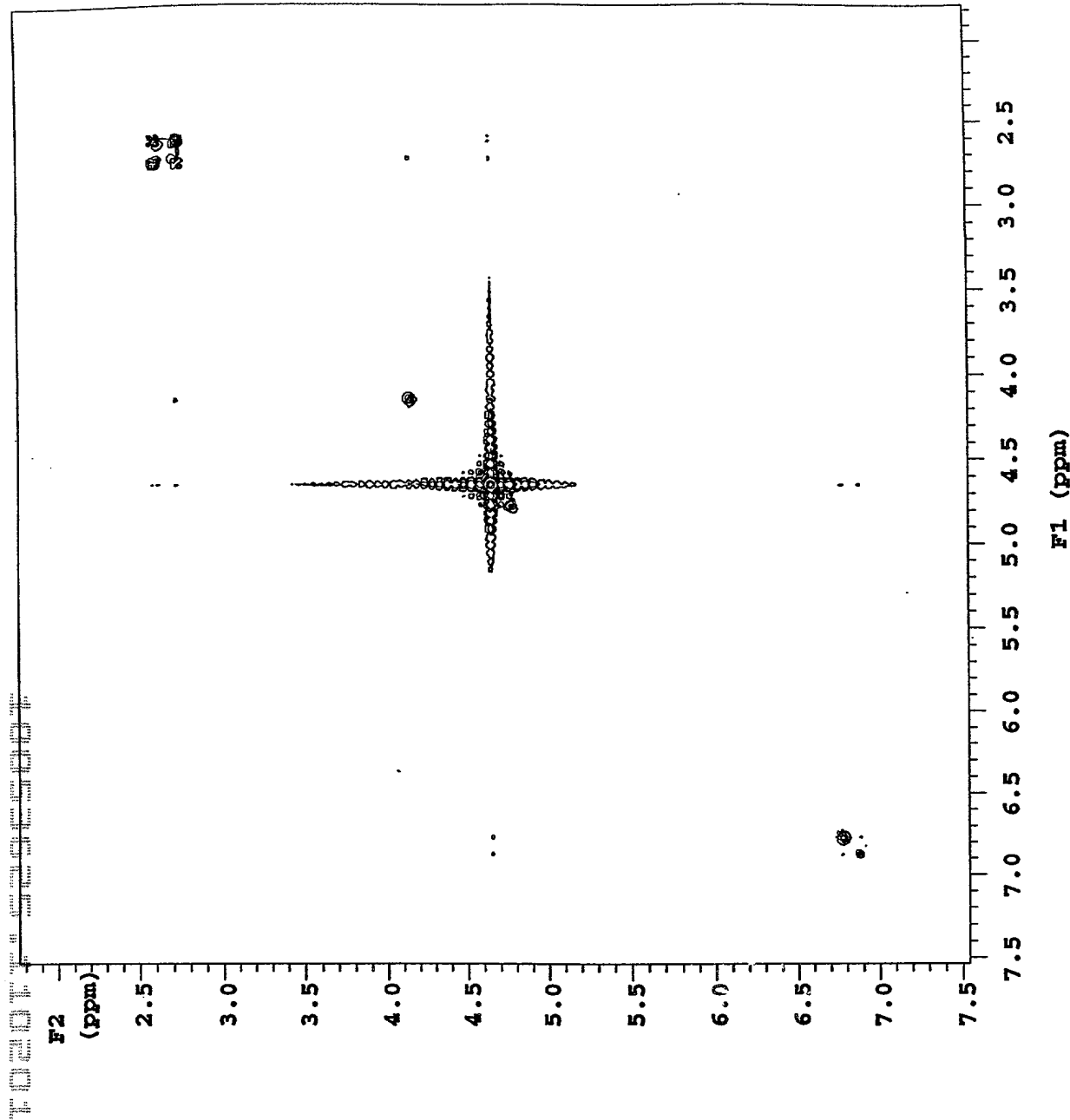


FIGURE 24A



COSY

Pulse Sequence: relayh

Solvent: D2O

Ambient temperature

UNITY-500 "nmr500"

PULSE SEQUENCE: relayh

Relax. delay 0.500 sec

COSY 90-90

Acq. time 0.178 sec

Width 2882.3 Hz

2D Width 2882.3 Hz

8 repetitions

120 increments

OBSERVE H1, 499.8801324 MHz

DATA PROCESSING

Line broadening 0.1 Hz

F1 DATA PROCESSING

Line broadening 0.3 Hz

FT size 1024 x 1024

Total time 11 min, 23 sec

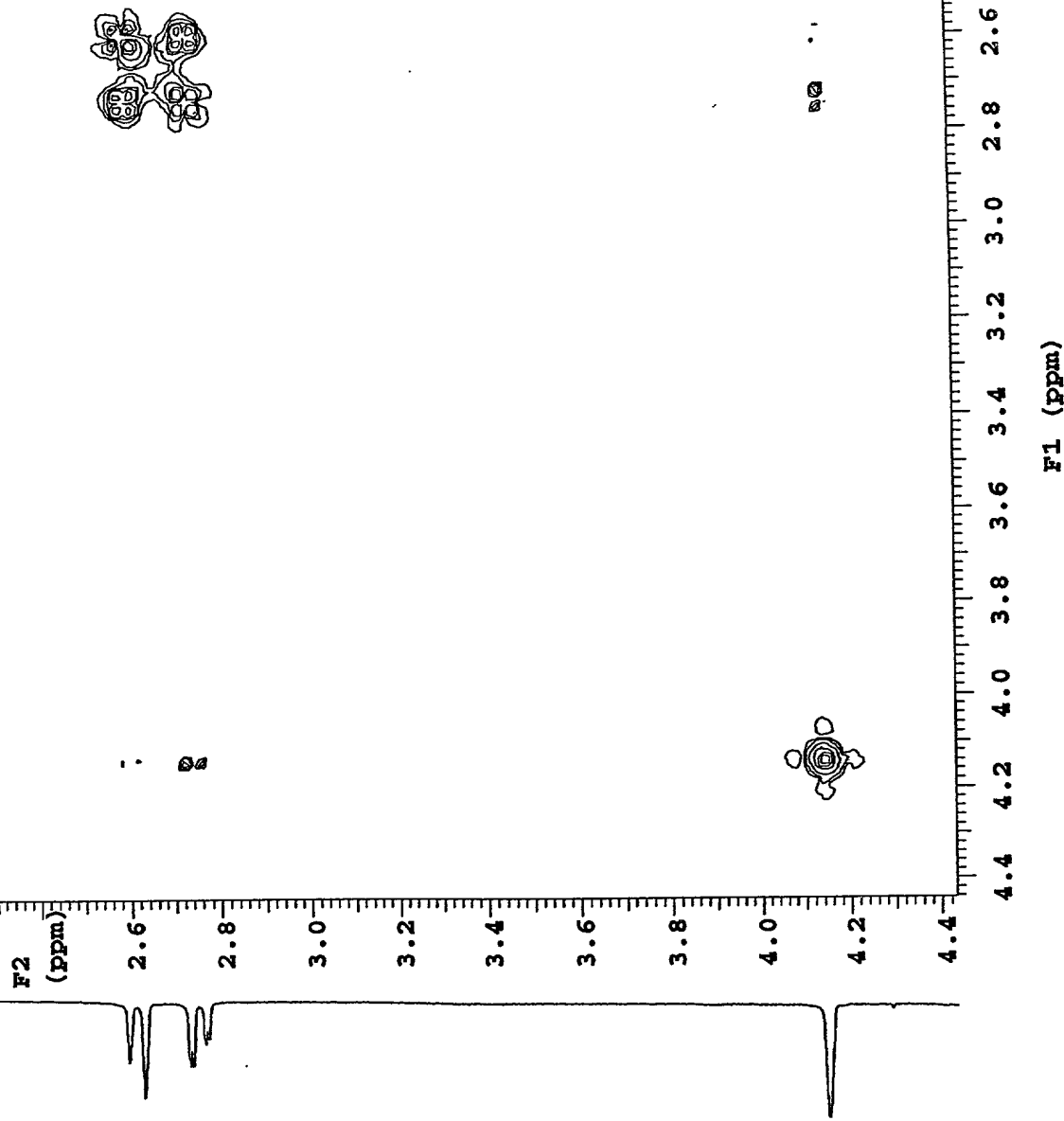


FIGURE 24B

COSY

Figure 24C

Pulse Sequence: relayh

Solvent: D2O

Ambient temperature

UNIT-500 "nmr500"

PULSE SEQUENCE: relayh

Relax. delay 0.500 sec

COSY 90-90

Acq. time 0.178 sec

Width 2882.3 Hz

2D Width 2882.3 Hz

8 repetitions

120 increments

OBSERVE H1, 499.8801324 MHz

DATA PROCESSING

Line broadening 0.1 Hz

F1 DATA PROCESSING

Line broadening 0.3 Hz

FT size 1024 x 1024

Total time 11 min, 23 sec

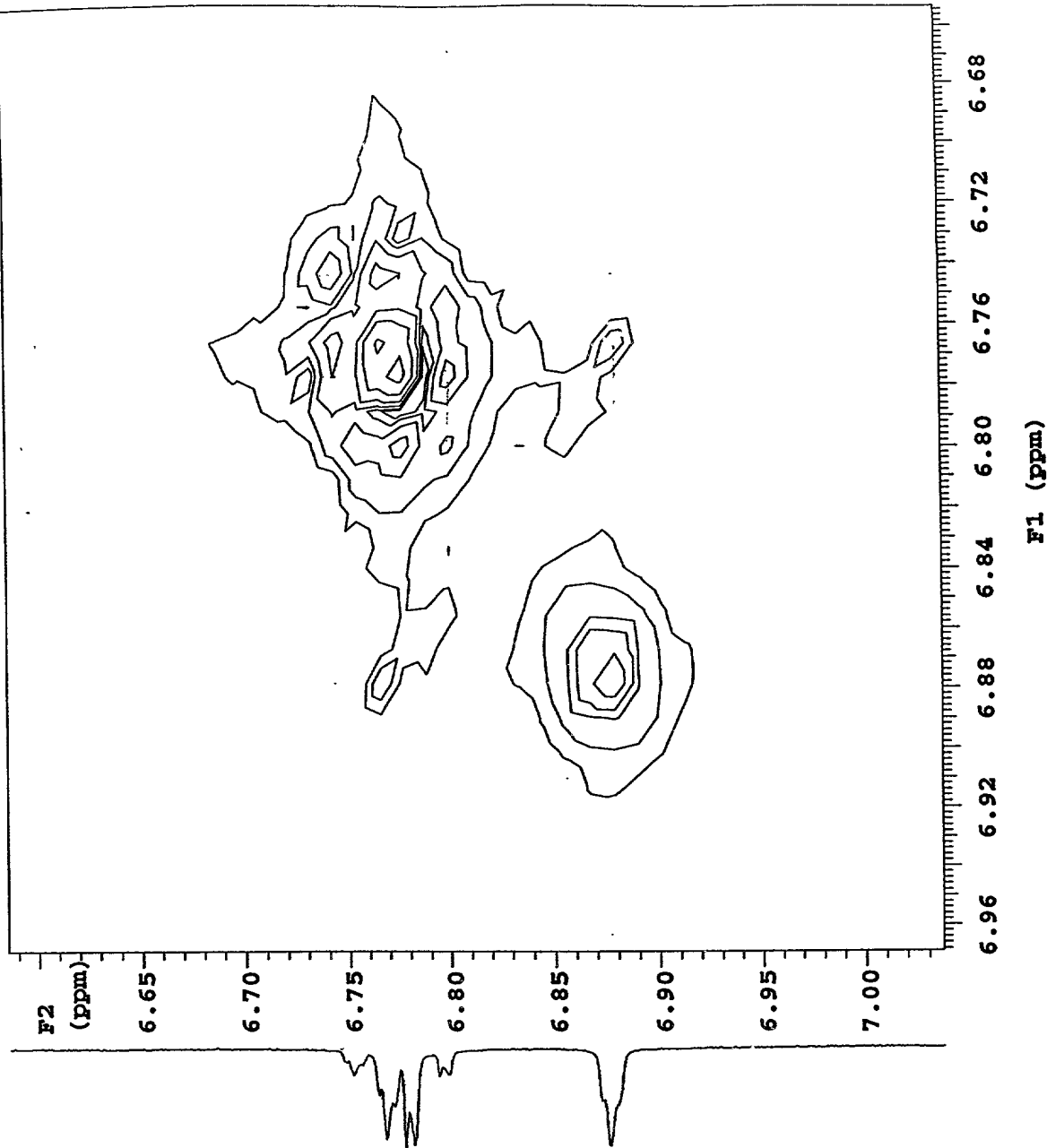


FIGURE 24C

[illegible]

**Pulse Sequence: s2pul**





COSY

Pulse Sequence: relayh

Solvent: CDCl<sub>3</sub>

Temp. 26.0 C / 299.1 K

INOVA-500 "nmr500"

Relax. delay 0.500 sec

COSY 90-90

Acq. time 0.128 sec

Width 8000.0 Hz

2D Width 8000.0 Hz

16 repetitions

512 increments

OBSERVE H1, 499.9135718 MHz

DATA PROCESSING

Sine bell 0.064 sec

F1 DATA PROCESSING

Sine bell 0.032 sec

FT size 2048 x 2048

Total time 1 hr, 31 min, 32 sec

Top of spectrum

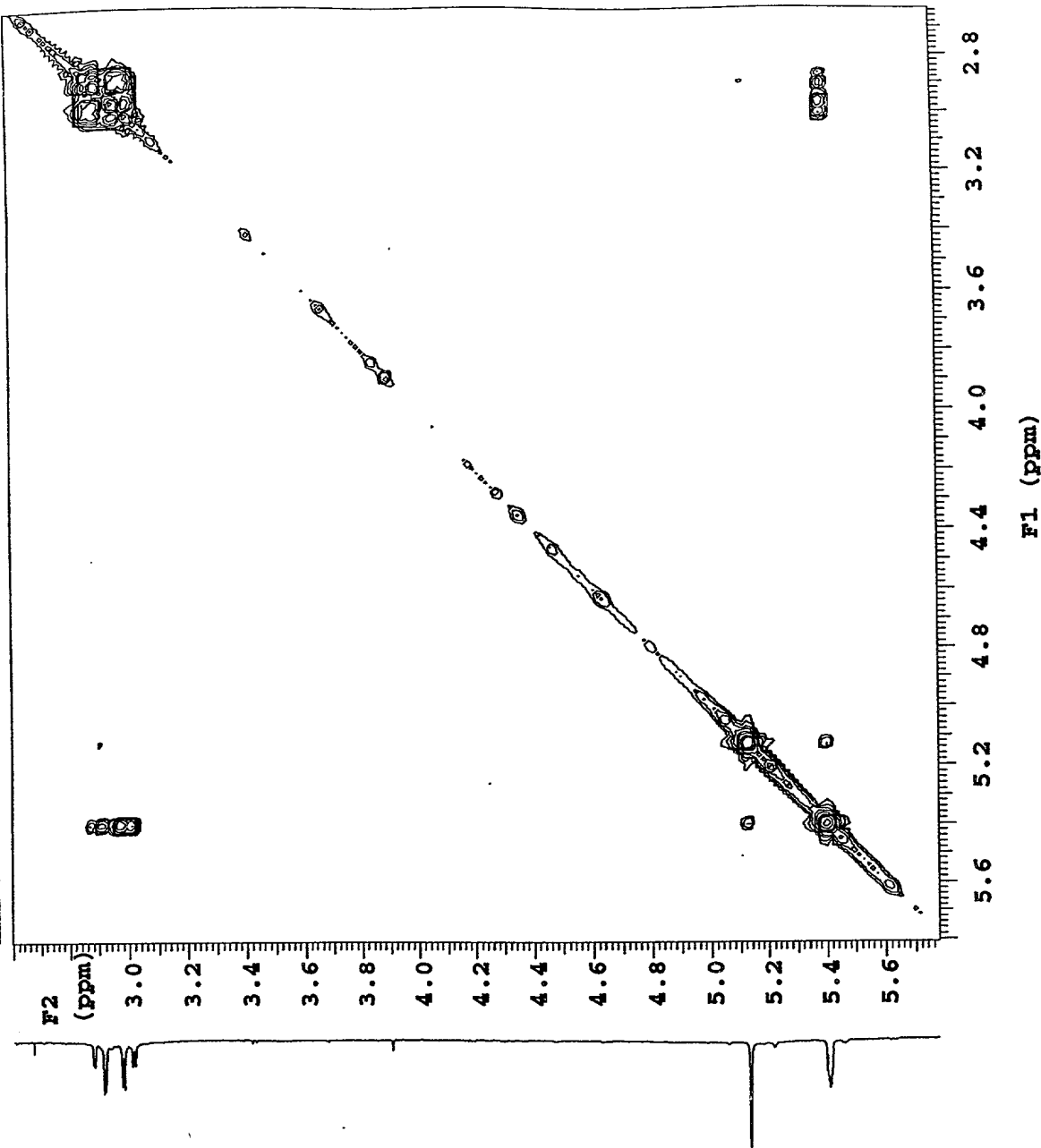


FIGURE 27

HETCOR of Acetylated . in CDCl<sub>3</sub>.

TOPPT "G3E5D0T"

Pulse Sequence: hetcor

Solvent: CDCl<sub>3</sub>

Temp. 26.0 C / 299.1 K

User: 1-14-87

INOVA-500 "nmr500"

Relax. delay 1.000 sec

Acq. time 0.082 sec

Width 25000.0 Hz

2D Width 4614.9 Hz

208 repetitions

256 increments

OBSERVE C13, 125.703376 MHz

DECOUPLE H1, 499.9160715 MHz

Power 38 dB

on during acquisition

off during delay

WALTZ-16 modulated

DATA PROCESSING

Line broadening 2.0 Hz

F1 DATA PROCESSING

Line broadening 0.3 Hz

FT size 4096 x 1024

Total time 16 hr, 46 min, 21 sec

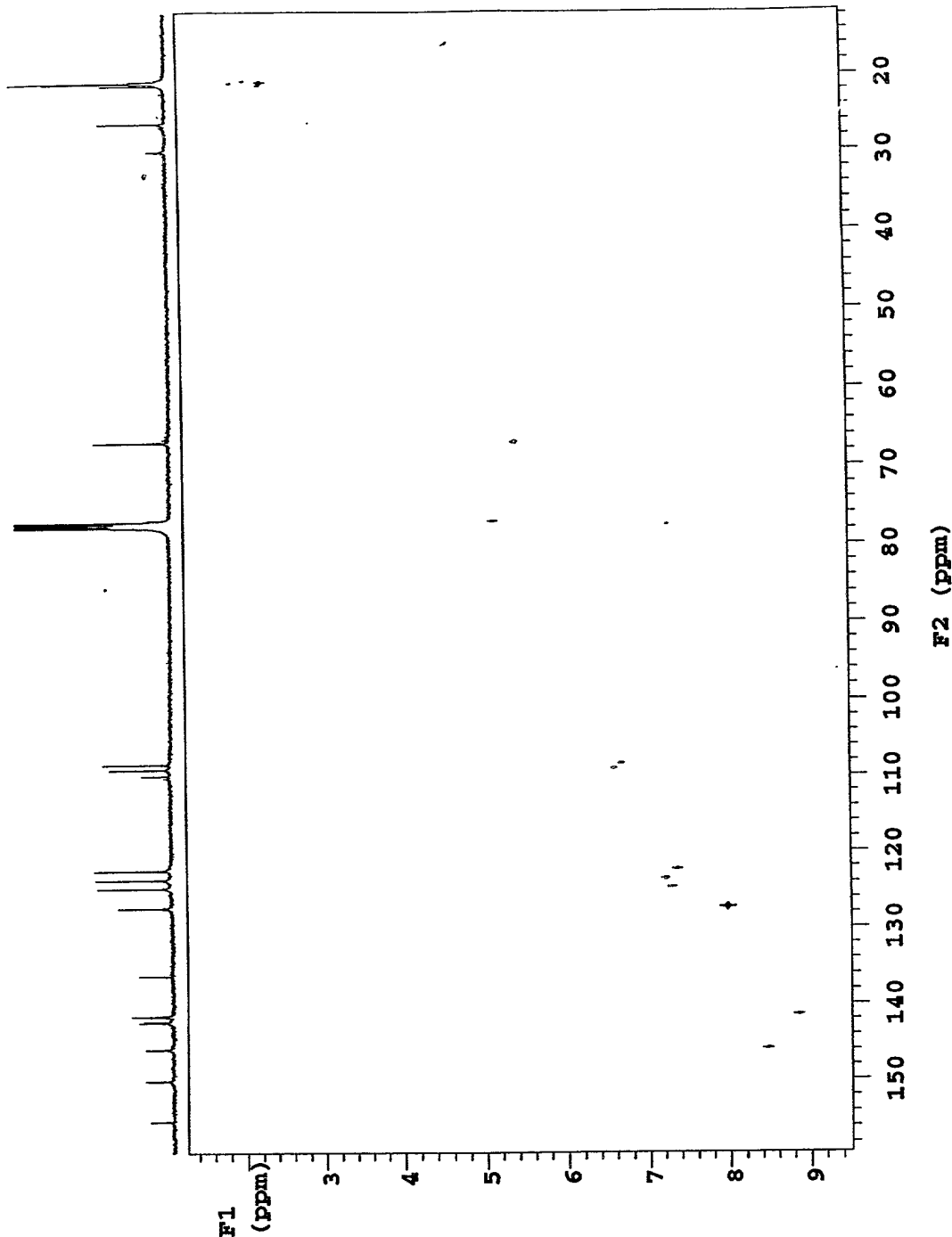


FIGURE 28A

HETCOR of Acetylated in CDCl<sub>3</sub>.

Pulse Sequence: hetcor

Solvent: CDCl<sub>3</sub>

Temp. 26.0 C / 299.1 K

User: 1-14-87

INOVA-500 "nmr500"

Relax. delay 1.000 sec

Acq. time 0.082 sec

Width 25000.0 Hz

2D Width 4614.9 Hz

208 repetitions

256 increments

OBSERVE C13, 125.703376 MHz

DECOUPLE H1, 499.9160715 MHz

Power 38 dB

on during acquisition

off during delay

WALTZ-16 modulated

DATA PROCESSING

Line broadening 2.0 Hz

F1 PTA PROCESSING

Line broadening 0.3 Hz

FT size 4096 x 1024

Total time 16 hr, 46 min, 21 sec

TOCT 82353333T  
X = pyridinium acetate

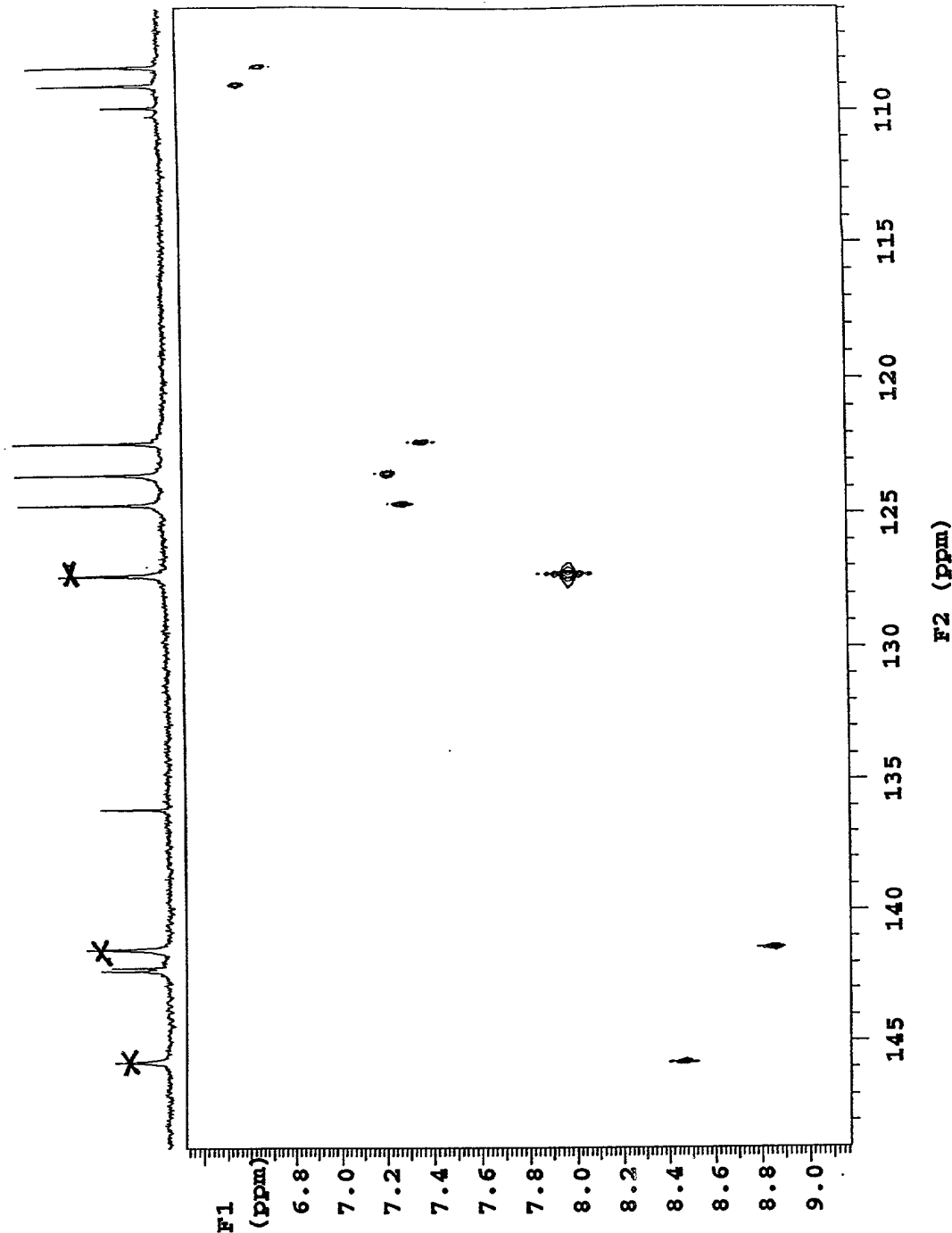


FIGURE 28B

HETCOR of Acetylated in CDCl<sub>3</sub>.

Pulse Sequence: hetcor

Solvent: CDCl<sub>3</sub>

Temp. 26.0 C / 299.1 K

User: 1-14-87

INOVA-500 "nmr500"

Relax. delay 1.000 sec

Acq. time 0.082 sec

Width 25000.0 Hz

2D Width 4614.9 Hz

208 repetitions

256 increments

OBSERVE C13, 125.7033376 MHz

DECOUPLE H1, 499.9160715 MHz

Power 38 dB

on during acquisition

off during delay

WALTZ-16 modulated

DATA PROCESSING

Line broadening 2.0 Hz

F1 DATA PROCESSING

Line broadening 0.3 Hz

FT time 4096 x 1024

Total time 16 hr, 46 min, 21 sec

TOPOFF "GEGEGOFF"  
X = pyridinium acetate

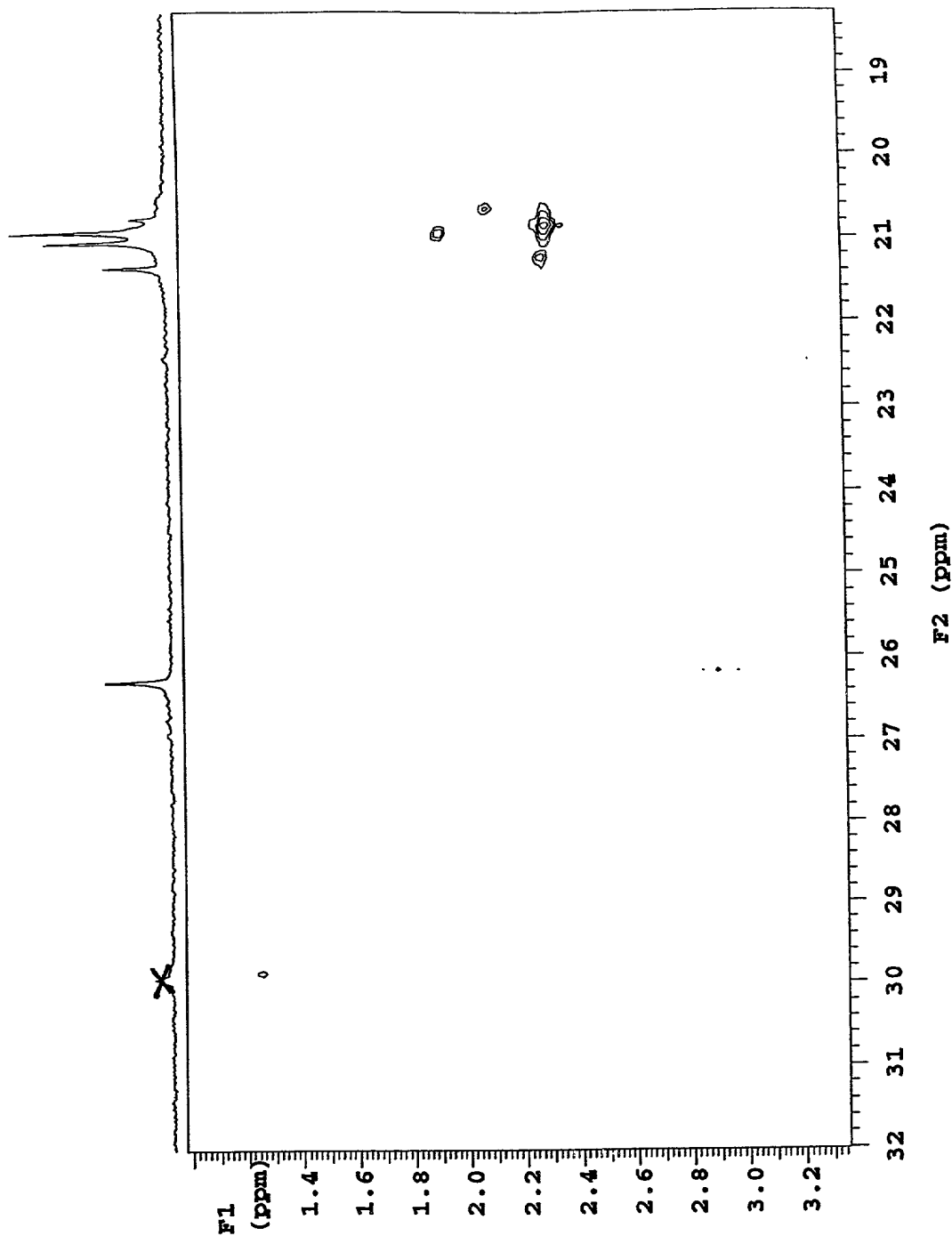


FIGURE 28C



# TOTAL "SASESOT"

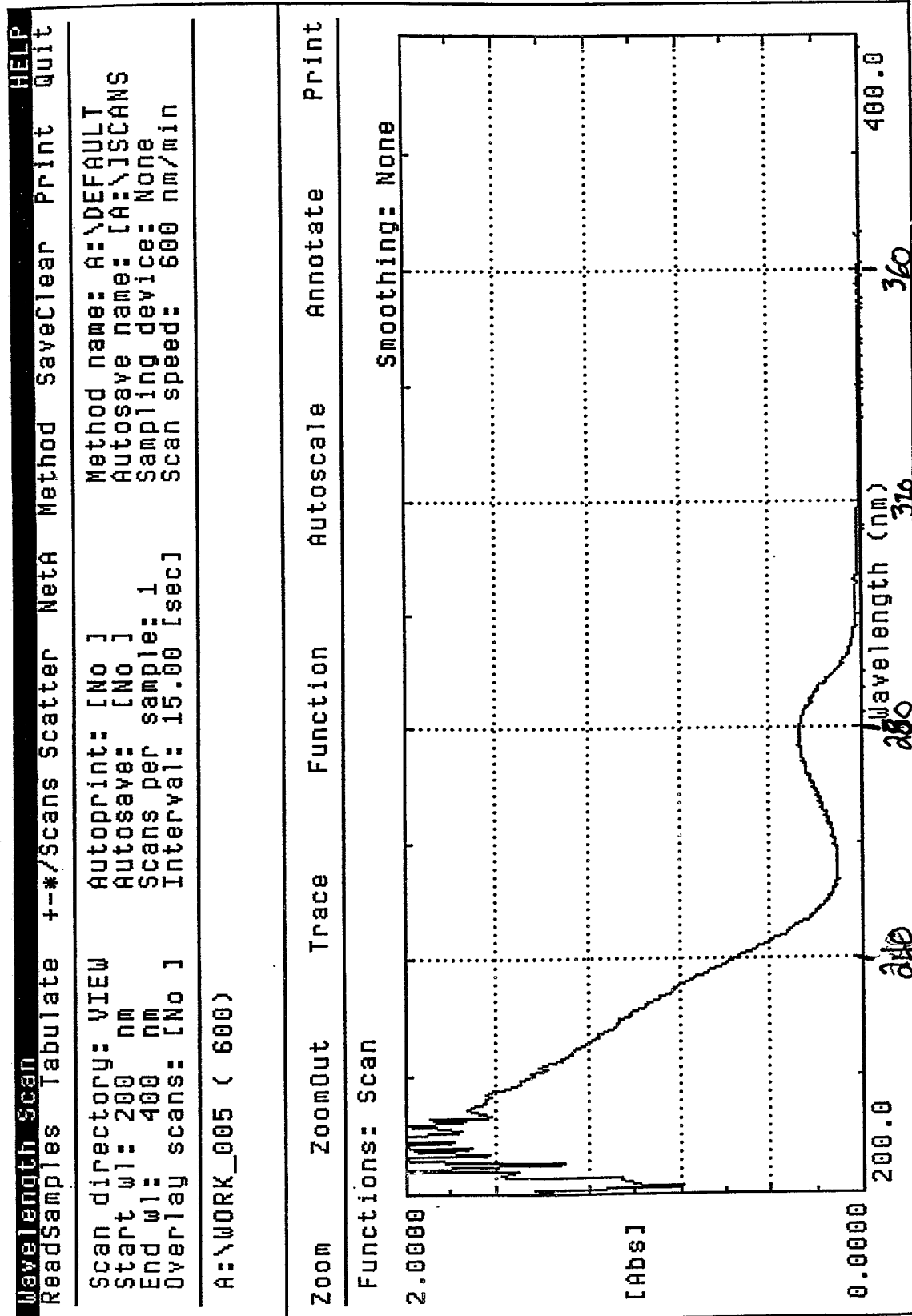
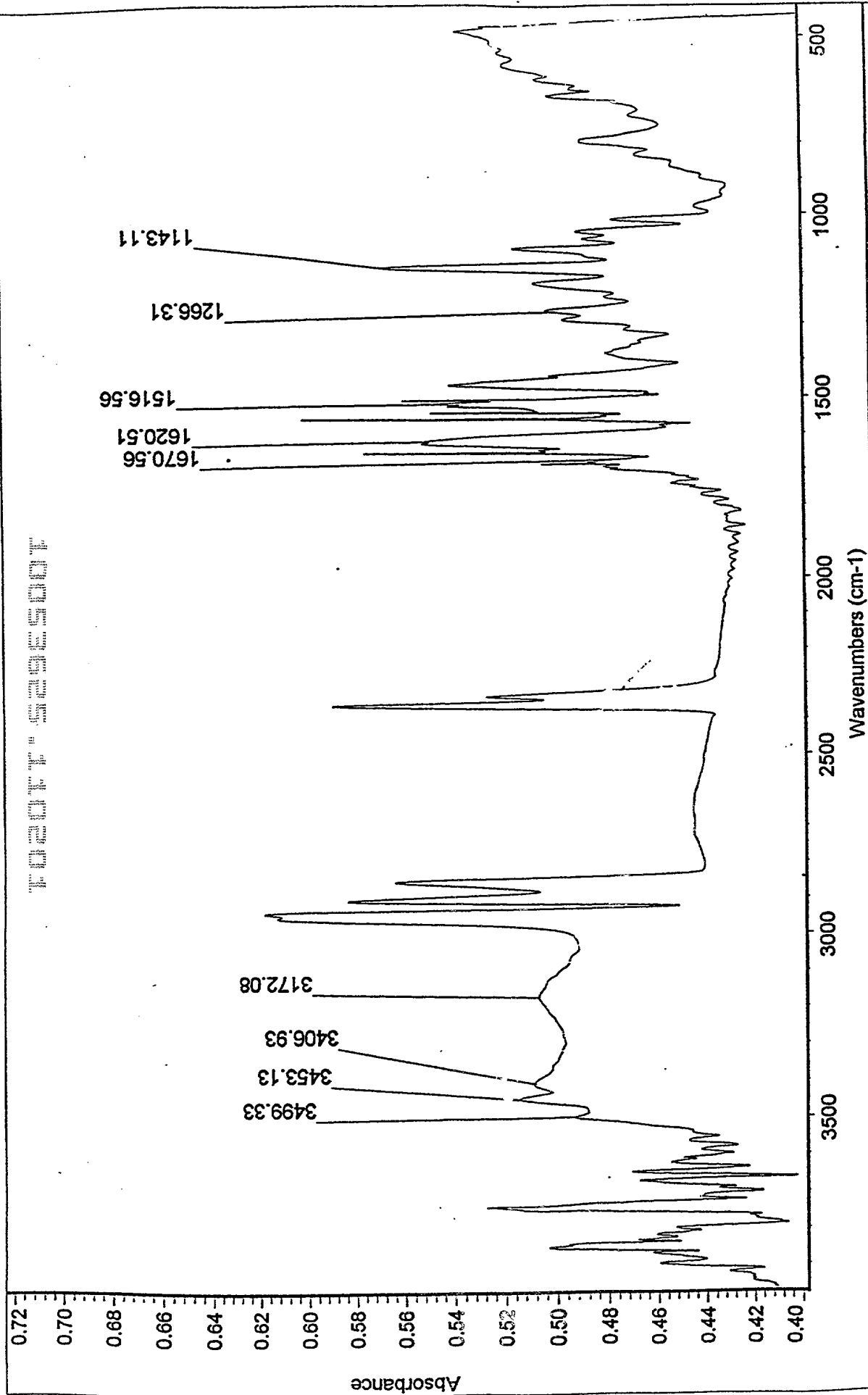


FIGURE 29



\*\*Subtraction Result:proteotech, sampleL

Scans: 32

Resolution: 4.000

FIGURE 30

## Aromatic Alcohols and Phenols

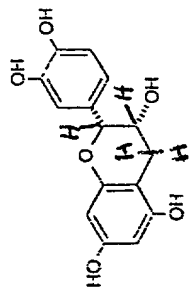
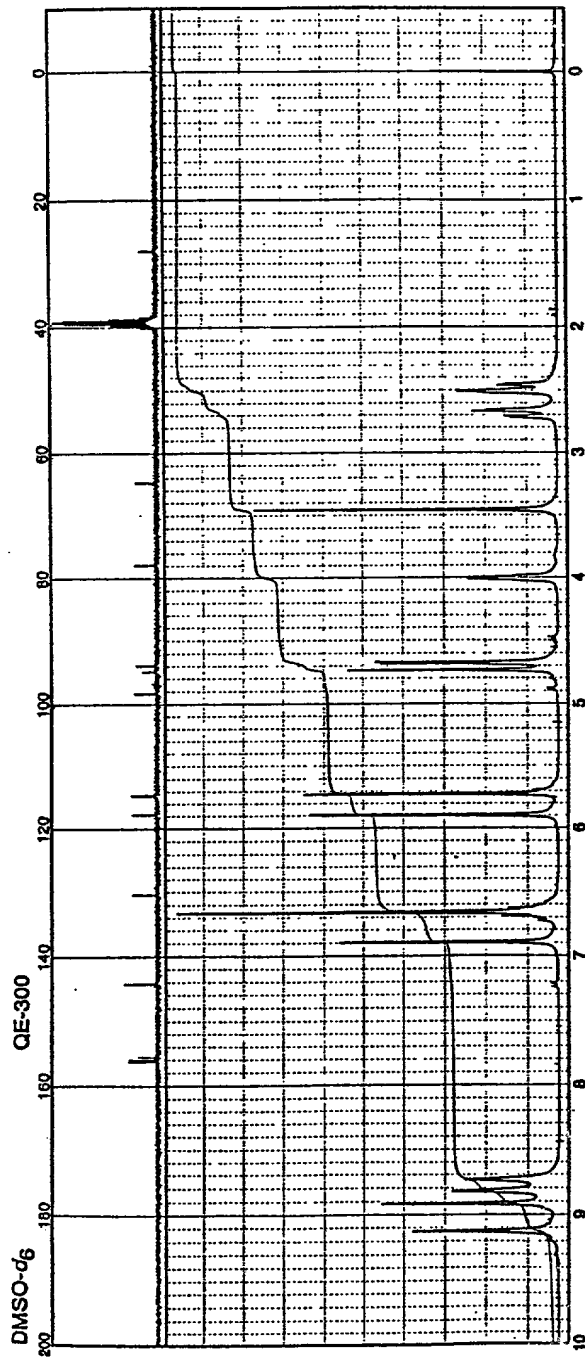
Aldrich 85,523-5  
(-)-Epicatechin, 97%

CAS 1490-46-0

$C_{15}H_{14}O_6$   
FW 290.27

mp 240°C d.

156.31 130.42 94.89°  
156.01 117.78° 93.91°  
155.57 114.89° 77.88°  
144.28 114.58° 64.75°  
144.23 98.31 28.07



Aldrich 86,181-2

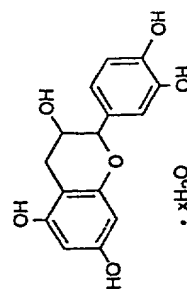
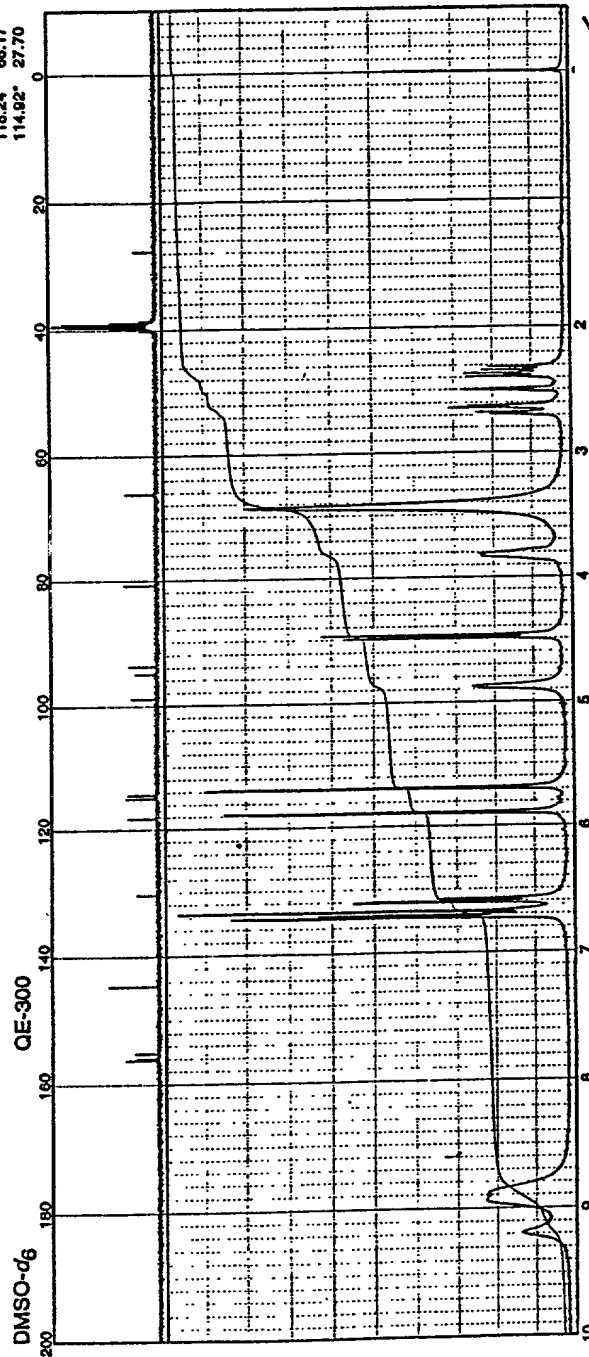
(±)-Catechin hydrate, 98%

$C_{15}H_{14}O_6$

FW 290.28

mp 210°C d.

156.25 114.35°  
155.97 98.80°  
155.15 94.97°  
144.85 93.70°  
130.43 80.83°  
118.24° 66.17°  
114.92° 27.70°



• xH<sub>2</sub>O



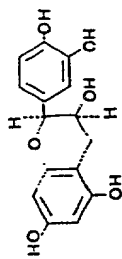
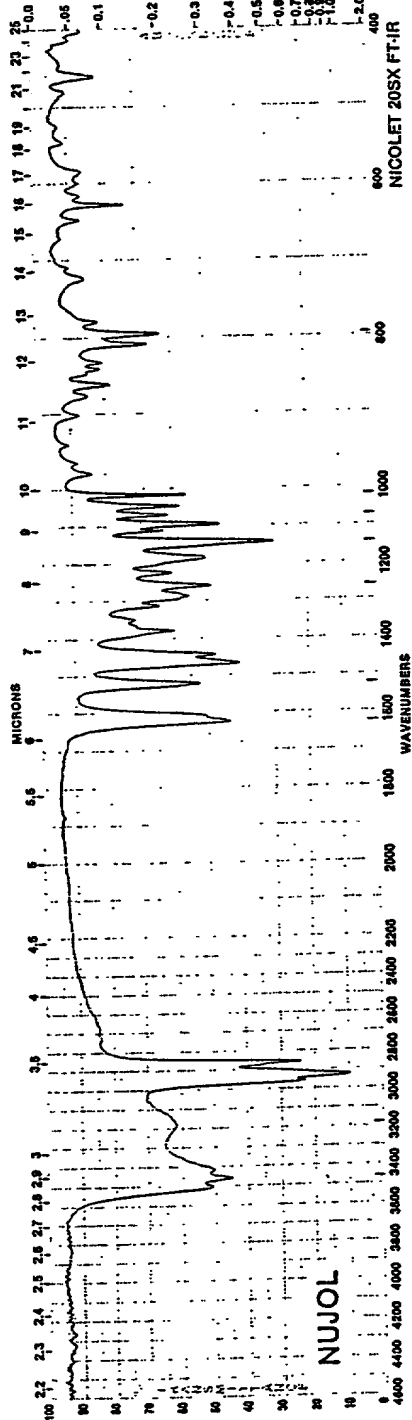
FIGURE 31

85523-5 CAS [490-46-0]  
(-)-Epicatechin

FW 290.27  
mp 240°C (dec.)

IR III, 673E

D

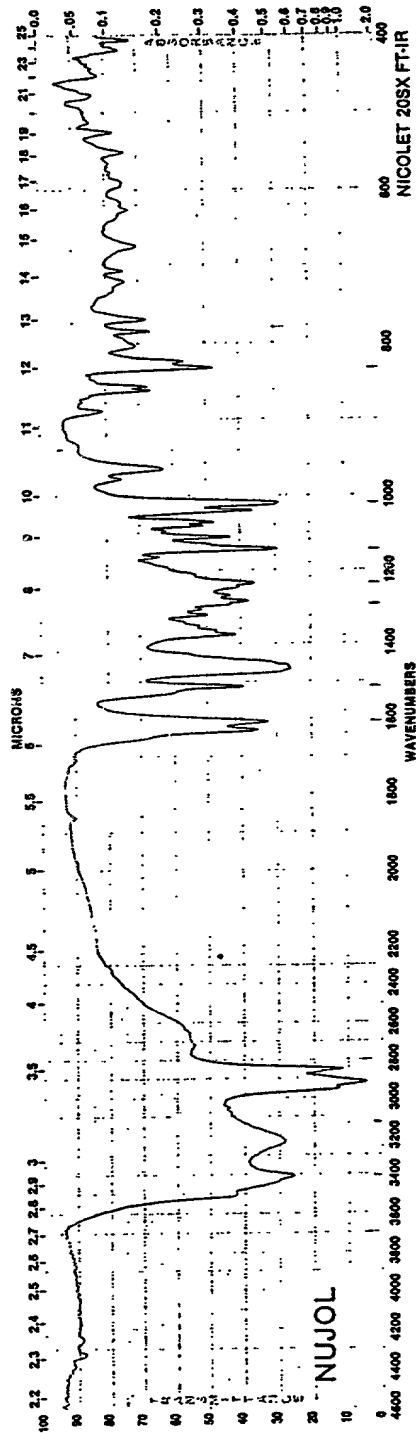


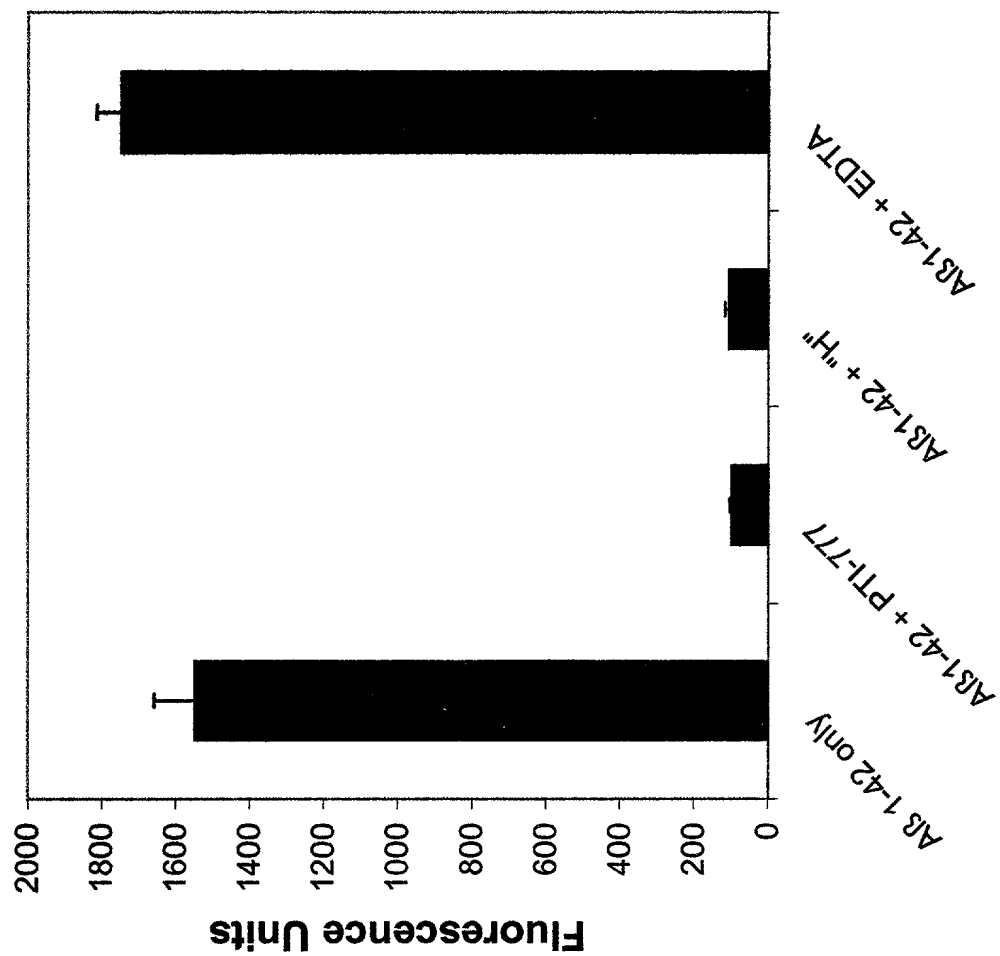
22402-2 CAS [154-23-4]  
(+)-Catechin hydrate

FW 290.28

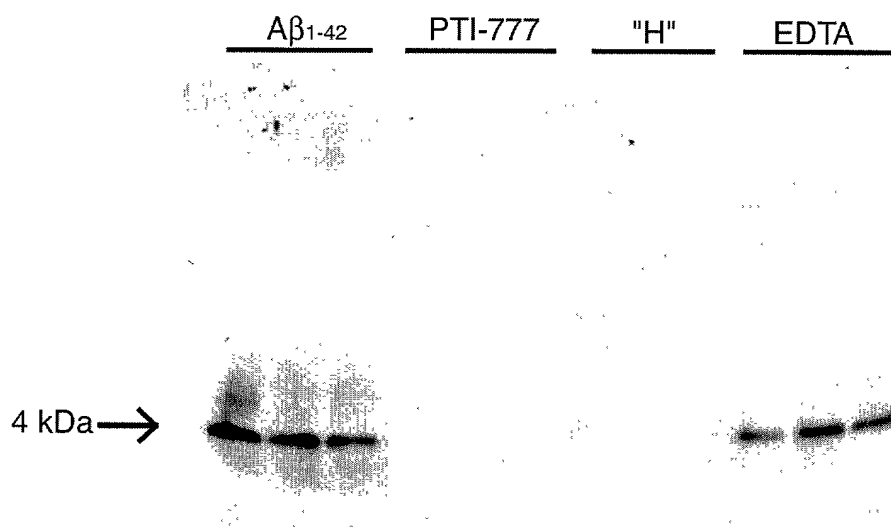
IR III, 703G  
Merck 10,1883

3411.2 1514.7 1144.3  
3134.9 1293.2 1020.6  
1609.9 1236.4 832.3





**FIGURE 33**



**FIGURE 34**